

*Miller Bros*

**An Illustrated Description**

—OF—

1879

FIRST-CLASS

**ACHROMATIC MICROSCOPES**

APPARATUS, SPECIMENS, ETC.,

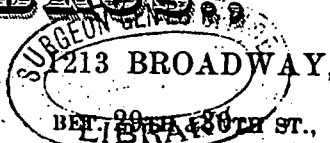
MADE, IMPORTED AND SOLD BY

**MILLER BROS.**

69 NASSAU STREET,

COR. JOHN STREET,

NEW YORK.



5

PRICE, TEN CENTS.

FRED. JENKINS, PRINTER, 35 & 37 VESEY STREET,  
NEW YORK.

OTIS HISTORICAL ARCHIVES  
NATIONAL MUSEUM OF HEALTH AND MEDICINE  
ARMED FORCES INSTITUTE OF PATHOLOGY

## TERMS.

All prices in this Catalogue are Net for Cash (without discount,) on receipt of the Invoice.

Money should not be sent by letter.

POST-OFFICE ORDERS CAN BE PROCURED,

OR THE

Goods sent C. O. D. by Express.

When goods are ordered to be sent by Express, and the bill collected by the Express Company, the Express charge for collection will be added to the amount of the bill. In these cases

A REMITTANCE OF

**TEN DOLLARS**

Must be sent with the Order.

**BILLS OF LESS AMOUNT CANNOT BE  
COLLECTED BY EXPRESS.**

All goods packed with care and warranted to be in good order when shipped; but no responsibility assumed for breakage, or injury received in transportation.

Correspondents are requested to give exact directions in regard to the shipment of their goods, as packages frequently miscarry because of improper directions.

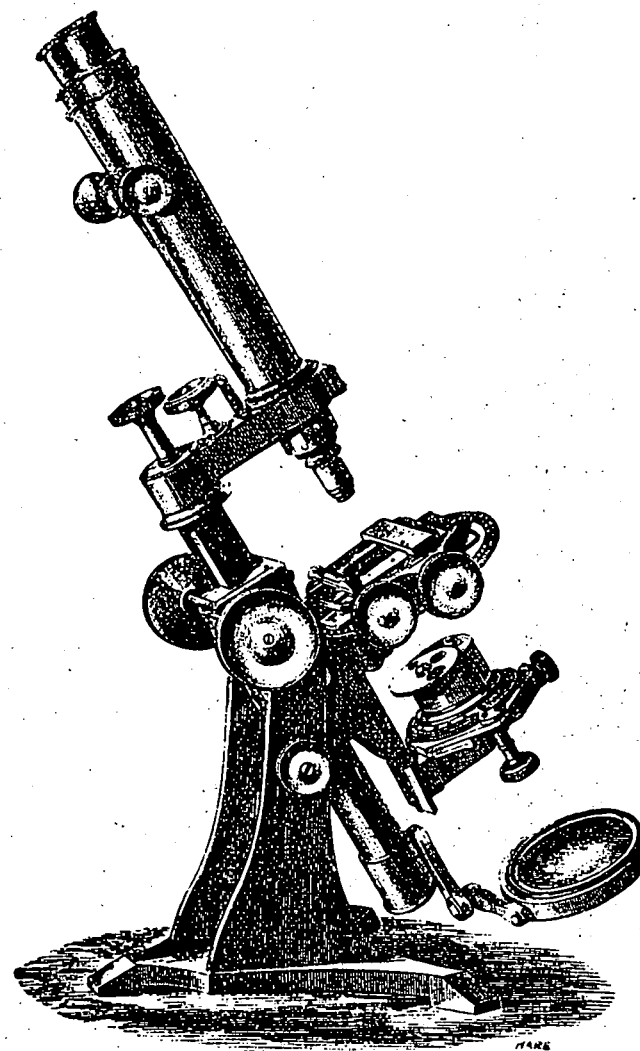
Packing Cases are Charged at Cost Price,

AND

**CANNOT BE ALLOWED FOR IF RETURNED.**

3.

## FIRST-CLASS MICROSCOPES



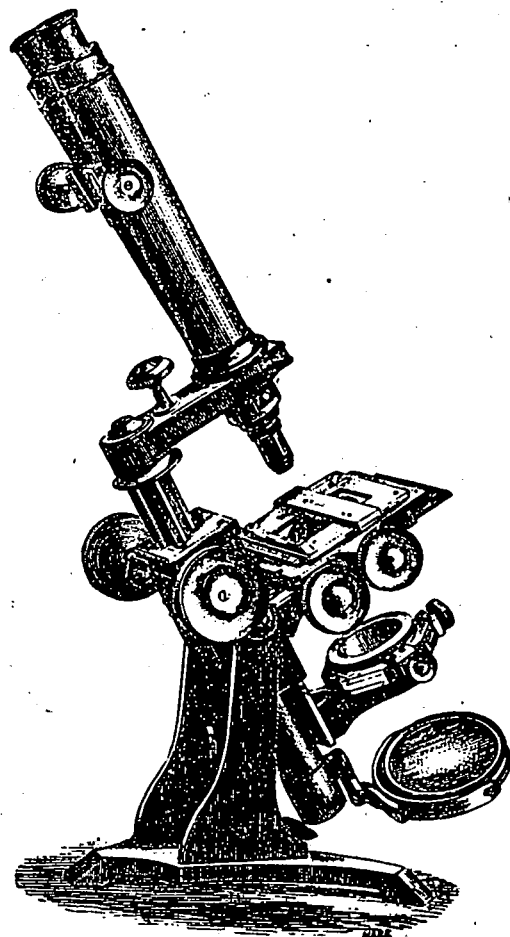
Microscope Stand. No. 1.

Scale, one-fourth of the original size. Price, \$320.00 (see page 11).

For prices of various accessories, see pages 12 to 15.

4.

# FIRST-CLASS MICROSCOPES



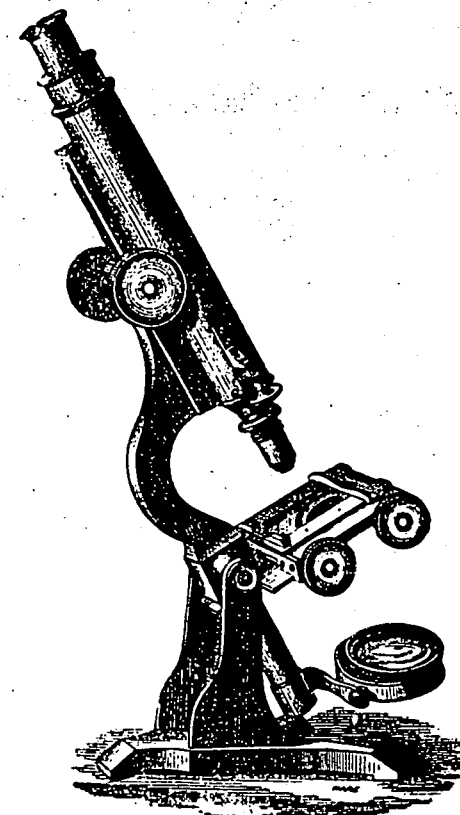
Microscope Stand, No. 2.

Scale, one-fourth of the original size. Price, \$280.00, (see page 11).

For prices of various accessories, see pages 12 to 15.

5.

# FIRST-CLASS MICROSCOPES



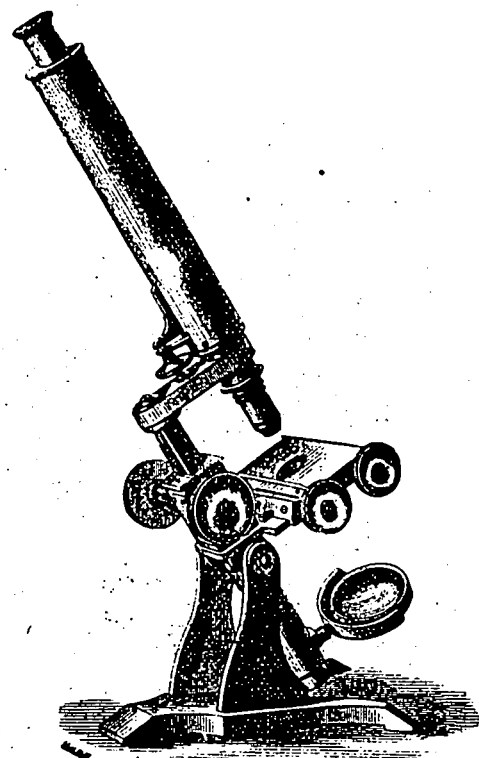
Microscope Stand, No. 3.

Scale, one-fourth of the original size. Price, \$150.00, (see page 11).

For prices of various accessories, see pages 12 to 15.

6.

## FIRST-CLASS MICROSCOPES



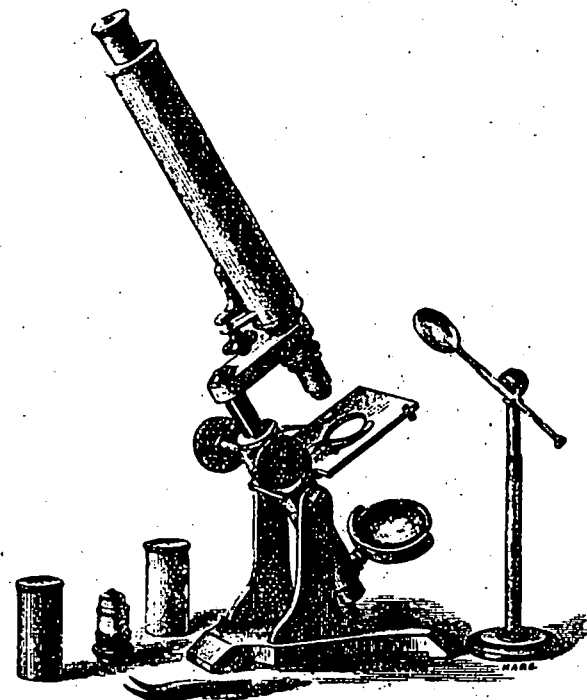
**Microscope Stand. No. 4.**

Scale, one fourth of the original size. Price, \$75.00. (see page 11.)

For prices of various accessories, see pages 12 to 15.

7.

## NEW EDUCATIONAL MICROSCOPES.



**New Educational Microscope, E.**

Price, in Cabinet complete, as engraved ..... \$80.00.

This Microscope has a fine adjustment for focussing. The Stand is entirely of brass, and it forms, without exception, the best instrument ever produced at the price; the following apparatus being fitted with it in a polished mahogany case:

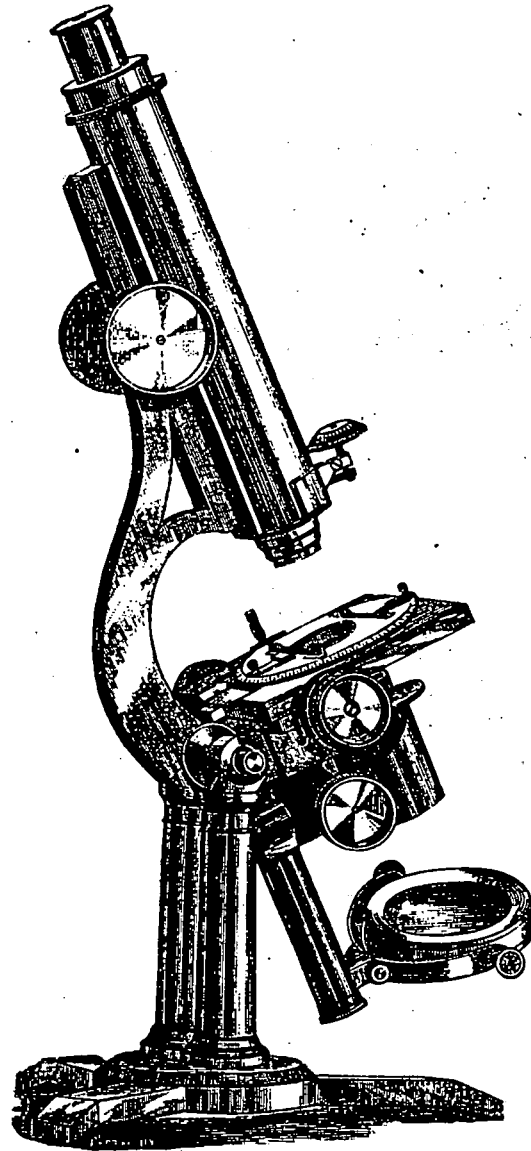
2 Huyghenian Eye Pieces, A and B.  
1-inch Object Glass, 160 Angular Aperture.  
1/4-inch do 750 do  
Condensing Lens on separate Stand,  
Pair of Pliers, Four Stage Plates and Cells.

It is capable of receiving the following extra appliances:

Polariscope, Selenite, Live Box, 2-inch Object Glass, Micrometer, Spot  
Lens, Camera Lucida, for drawing, Stage Tweezers ..... \$50.00

8.

# FIRST-CLASS MICROSCOPES



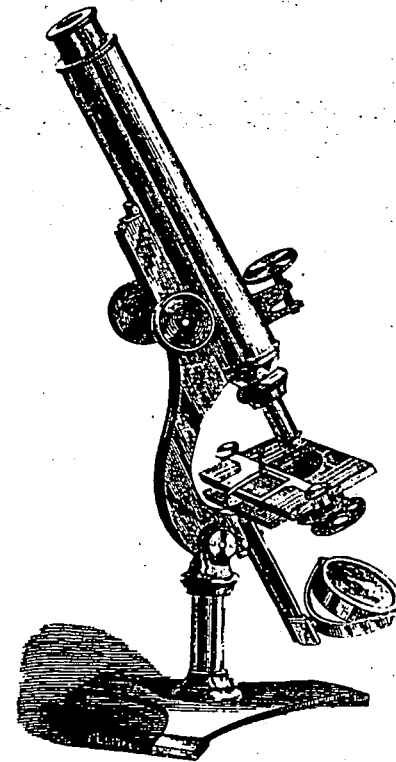
OF J. ZENTMAYER.

Microscope Stand, No. 5.

Price, \$200.00, (see page 11.) For accessories see pages 12 to 15.

9.

# FIRST-CLASS MICROSCOPES

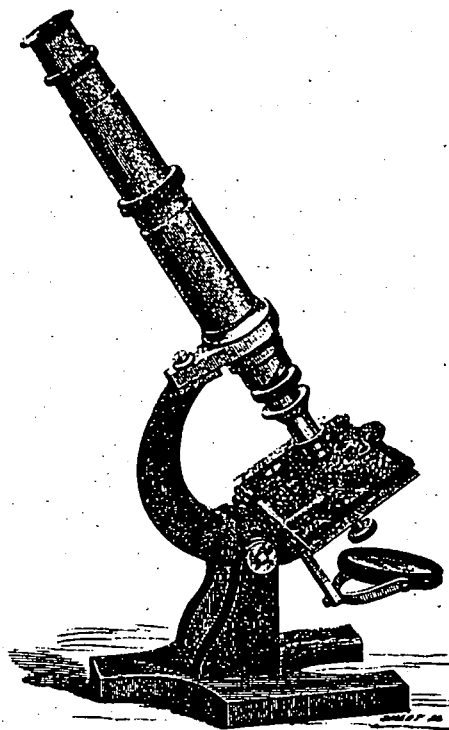


J. ZENTMAYER.

Microscope Stand, No. 6.

Price, \$85. (see page 12.) For accessories see pages 12 to 15.

## STUDENTS' MICROSCOPE.



STAND 12 INCHES IN HEIGHT, AND DRAW TUBE.

Heavy Base and Arm of green japanned cast iron. Body and all other parts of well finished brass. The body can be inclined to any angle. Coarse adjustment by spiral motion, fine adjustment by a new construction, which is efficient with high powers. Plain and concave mirrors adjustable for oblique light. Revolving diaphragm inlaid even with the stage. The stage is of glass, with perfectly smooth motions in all directions. One Eye-Piece, 2 objectives  $\frac{3}{4}$  inches and  $\frac{1}{4}$  inches focus of our own make. This instrument having been designed under advice of our most eminent Physicians, Professors and Amateurs in Microscopes, is cheerfully recommended by them especially for Medical purposes.

The whole packed in an upright Black Walnut wood case with drawer.

Price ..... \$50.00

## COMPOUND MICROSCOPES.

No. 1 Binocular Microscope is of first-class quality in every respect. The stand is firm and free from tremor under observation, even while the adjustment of apparatus may be going on. The Binocular mechanism is very superior, realizing both the stereoscopic and perspective views of the object with remarkable ease and perfection. In addition to a rectangular motion of one inch in each direction and rotation by hand, the whole stage rotates concentrically and independently by means of a rack and pinion on a circular plate, graduated so as to form a Goniometer or Position Micrometer. The Secondary or Sub-Stage has adjusting screws for centering all the supplementary apparatus which it receives, and affords facilities for the manipulation and use in the most convenient and efficient manner, possessing also the means of rotation by rack and pinion, with graduated divisions at the circumference. The fine adjustment is of the most delicate and perfect construction, the index reading off differences in the focal position of the objective to the five-thousandth part of an inch, perceptible to the observer's eye.

Price of this Microscope as engraved, including four Eye Pieces ..... \$320  
If with single body, two Eye Pieces ..... \$260

No. 2. This Instrument, as seen by the engraving, is constructed on the same general plan as 1, but is rather smaller. The Stage has the usual rectangular motion and one of rotation, without rack and pinion. In workmanship, finish, accurate fitting, and optical qualities, it is the same as 1. The Sub-Stage has a rotating cylinder, with adjustments for centering the apparatus which it receives, and provides for their use and application with freedom. The flat and concave Mirror is fitted on a double arm to facilitate the oblique reflection of light. The Price, Binocular as engraved, with four Eye-Pieces, is ..... \$280  
If single body, with two Eye Pieces ..... \$200

No. 3. Since the engraving on page 5 was made, the Stand C has been greatly improved in many important respects. While rather smaller than B, it is of a very convenient size. Its form is similar to that originally designed by J. J. LISTER, Esq., and possesses many recommendations. The Stage, which is remarkably thin, has a rotating Object Plate, and a rectangular motion of three quarters of an inch, both in the vertical and horizontal directions. The Polarizer and Sub-Stage appliances are fixed by means of a sliding dovetail plate, with a stop to ensue their concentric position when in use.

Price of Microscopic Stand C, with two Eye Pieces ..... \$150  
If Binocular, with four pieces ..... \$200

No. 4. The Microscope D is formed on the same general design as 2, but is smaller. The stand as shown, has a rack and pinion, and fine adjustment for focussing. Rectangular screw and rack motion to the stage. A rotating Diaphragm (not engraved,) Two Huyghenian Eye Pieces A and B. Concave and flat mirror.

Price of the Microscope Stand D, as above ..... \$75  
If Binocular, with four Eye Pieces and rack and pinion ..... \$110

No. 5. Zentmayer's Grand American Microscope, with 3 Eye Pieces, 1 $\frac{1}{2}$ , 8-10, 4-10, and 1-5th object glasses, polarizing apparatus, parabola, erector, draw tube, camera lucida, stage micrometer, condensing lens, stage forceps, animalcule cage, zoophyte trough. In mahogany cabinet. .... \$400 00  
Zentmayer's Grand American Microscope, stand only ..... \$200 00

No. 6. Zentmayer's U. S. Army Hospital Microscope, with 2 Eye Pieces, concave and plane mirrors, 8-10 and 1-5th object glasses, draw tube, camera lucida, stage micrometer, and condensing lens. In walnut case.....\$135 00  
Zentmayer's U. S. Army Hospital Microscope, stand only.....85 00

### MICROSCOPE CASES

No. 1. Spanish mahogany Cabinet, with fittings.....	\$40 00.	\$70 00
No. 2. Mahogany Case with fittings.....	\$30 00.	\$50 00
No. 3. Mahogany Case.....	\$20 00.	\$35 00
No. 4. ".....	\$12 00.	\$25 00

### Miller Brothers' First-Class Objectives.

4 inch, angular aperture, 9.....	12 00
3 do. do. do. 12.....	16 00
2 do. do. do. 15.....	18 00
1½ do. do. do. 20.....	20 00
1 do. do. do. 25.....	20 00
¾ do. do. do. 32.....	22 00
½ do. do. do. 60.....	25 00
¼ * do. do. do. 75.....	36 00
¼ do. do. do. 90.....	30 00
¼ * do. do. do. 130.....	40 00
1-5* do. do. do. 130.....	50 00
1-8* do. do. do. 145.....	60 00
1-18* do. do. do. 175 (Immersion).....	100 00
1-30* do. do. do. 170 do.....	130 00

All marked ( \* ) have adjustment for covering glass.

### Second Class or Students Objectives.

3 inch.....	Price 10 00
2 ".....	" 10 00
1½ ".....	" 10 00
1 ".....	" 10 00
¾ ".....	" 10 00
½ ".....	" 10 00
¼ ".....	" 15 00

### Hartnack's Objectives.

2 inch, No. 1.....	10 00
1 do. 2.....	10 00
¾ do. 3.....	15 00
½ do. 4.....	15 00
¼ do. 5.....	20 00
1-6 do. 7.....	20 00
1-9 do. 8.....	25 00
1-12 do. 9. (Immersion.).....	60 00
1-16 do. 10. do.....	75 00
1-18 do. 11. do.....	90 00

Any one having a preference for Microscopes, Objectives, or other Instruments by Messrs. R. B. Tolles, Crouch, and R. and J. Becks, or any other maker, can be supplied by MILLER BROS., at the manufacturers' prices.

Sorby's Pocket Spectroscope.....	\$15 00
Sorby's Micro-Spectroscope fitted to any stand, complete.....	40 00
Extra Eye Pieces, A, B, C and D..... each,	6 00
Erecting Eye Piece for dissecting.....	9 00
Improved Micrometer Eye Piece.....	10 00
Kelner's Orthoscopic Eye Piece, C or D, double-size field.....	9 00
Achromatic Condenser, with revolving diaphragm and complete adjustments.....	35 00
Webster's Achromatic Condenser.....	15 to 20 00
(Fig. 1. Bull's Eye Condenser, on stand.....	2 00, 4 50 to 10 00
Amici's Prism, for oblique illumination, mounted on a separate stand.....	20 00
Nachet's do. do. do.....	9 00
Rectangular do, reflection of parallel rays.....	18 00
Wenham's parabolic Reflector.....	\$9 50; best, 14 00
Silver Side Reflector, for opaque objects.....	9 00
Silver Parabolic Stage Reflector.....	9 50
(Fig. 2.) Brook's Arm, for two objectives.....	10 00
Do. do. three do.....	25 00
Stage Micrometer, ruled 100 and 1000.....	2 25
Stage Micrometer, ruled 100, 1000, 2000, 3000 and 4000.....	
(2 Millimeters) ruled in 100 each, with figures.....	2 50
(Fig. 3.) Maltwood's Object Finder, in Case.....	3 00
(Fig. 4.) Stage Tweezers on jointed arm.....	3 50
Zoophyte Trough, complete with wedge and spring.....	2 50
(Fig. 5.) Live Boxes, for insects.....	\$2 50 to 3 50
Frog and Fish Plate, complete in glass or metal.....	\$2 50 to 4 50
Glass Fish Boxes.....	3 50
Glass Stage Plates, various.....	50c and 1 25
Holman's Life Slide.....	1 50
" Current Slide.....	1 50
" Syphon Slides complete.....	4 50
Edward's Prism, for oblique illumination, mounted in German Silver.....	\$40 & \$50
Read's Prism.....	12 00
Plain Achromatic Condenser, with ¼-inch objective, central and annular stops.....	20 00
Read's Hemispherical or kettle-drum Condenser.....	13 50
(Fig. 6.) Camera Lucida, Wollaston's.....	12 00
(Fig. 7, 8.) do. do. do.....	\$8 00 and 10 00
(Fig. 9.) do. do. Neutral tint glass.....	3 00
Polarizing Apparatus.....	\$20 00 and 25 00
Selenites, selected colors, \$1.00 each; brass mounted.....	2 25
(Fig. 10.) Set of Darker's 3 Selenites, revolving, brass mounted, showing 13 colors and complimentary tints.....	18 00
Lister's set Dark Wells.....	5 00
Dark Field Condenser, with adjustment.....	\$4 00 to 5 00
(Fig. 11.) Miller's Stage Light Modifier, set of 3 colors.....	5 00
Skeleton Stage for very oblique illumination.....	4 00

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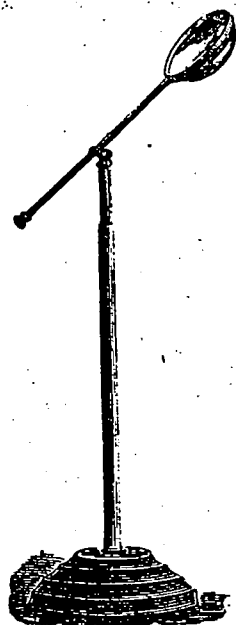


Fig. 1.

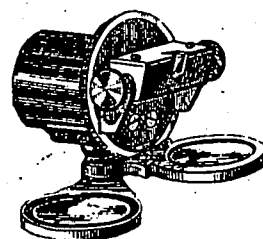


Fig. 6.

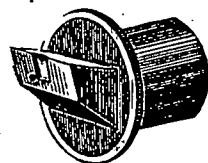


Fig. 7.

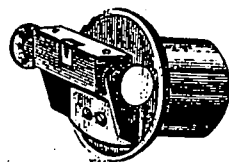


Fig. 8.



Fig. 9.

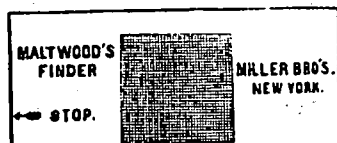


Fig. 3.

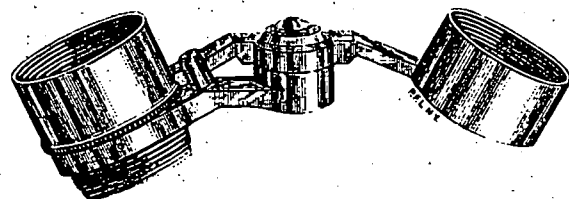


Fig. 2.

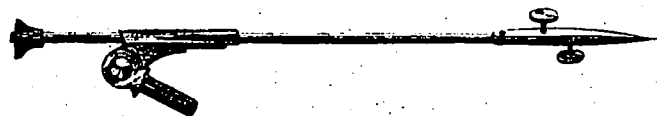


Fig. 4.



Fig. 5.

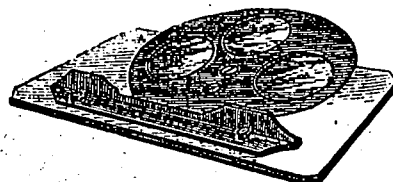


Fig. 11.

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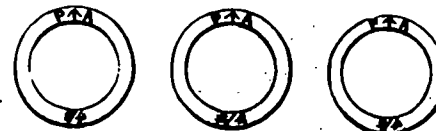
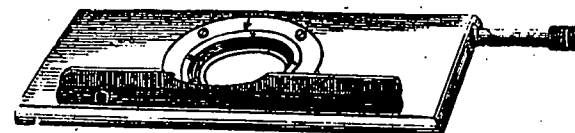


Fig. 10.

## Materials, &c. for Preparing & Mounting Objects.

(Fig. 12.) Turn Table for making cement cells and finishing slides, complete..... \$ 4 00

(Fig. 13.) Miller's Machine for cutting wood, medical and other sections..... \$ 5 00, 7 00, 12 00

(Fig. 14.) Diamond for cutting glass slips..... \$4 00 to 10 00

(Fig. 15.) Do do thin glass and for writing..... 4 00

Machine for cutting circles in thin glass with Diamond, complete..... 13 00

Flattest Crown Glass Slips, 3 by 1 inch..... doz. 30c. gross..... 3 00

Do do with ground edges, do 50c do..... 5 00

Do do do extra thin, 75c..... 7-00

Plate Glass Slips, excavated cells..... doz. 3 00

Round Glass Ring Cells..... doz. 1 00

Do do fixed on slips..... each. 25

Bone Ring Cells, assorted sizes..... doz. 50

Thin Glass Covers, cut round..... doz. 25, 30, 40, 50c. ounces. 3 50

Do do cut in squares..... do do do do 3 00

Do do cut round and square, very thin..... \$6 00 to 12 00

Thin Glass in sheets..... 1 50

Superfine White Name Labels, oval, in packets..... 25c. to 50

Colored Backs and Gilt Fronts, with holes punched, per 100..... 1 50

Colored Backs, holes not punched, per 100..... 50

Gilt front, holes do do..... 75

Round Punches for this purpose..... each, 50 to 1 00

(Fig. 16.) Capped Bottles, with Glass Rod, for holding Balsam of Damar for mounting, each..... 60

(Fig. 17.) Dropping Bottles, with glass bulbs..... 35

(Fig. 18.) Do do with rubber top, will supply a large quantity of fluid promptly..... 75

Growing Cells, with cover..... 2 50

Small Glass Spirit Lamps..... 75

German Students' Lamp..... 7 00

Camel Hair Brushes..... 10c to 25

(Fig. 19.) Steel Forceps, straight points..... 25c. to 1 00

Do curved points..... 75c to 1 50

(Fig. 20.) Scissors, 4 1/2-inch long, straight points..... 1 25

Do do curved points..... 1 50



Prof. Valentine's Double-bladed Knife, for making fine sections of soft tissues, etc.	8 00
Case of Dissecting Instruments	10 25
(Fig. 21.) Needle Holder, with binding screw	50
(Fig. 22.) Scalpel	each, 75c. to 1 50
(Fig. 23.) Dropping and Dipping tubes	10
Do do do do Rubber bulbs	15
(Fig. 24.) S. Jackson's Drying board	1 50
Small Air Pump, for use in mounting	18 00
Test Tubes of various lengths	each 10
Injecting Syringe, with four tubes and stop-cock	8 00

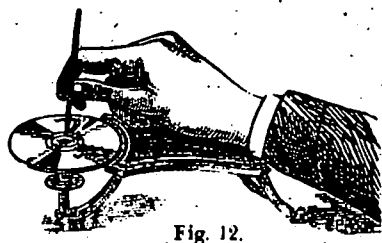


Fig. 12.



Fig. 15.

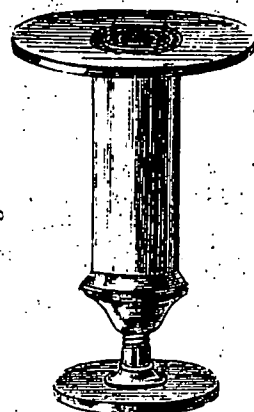


Fig. 13.



Fig. 14.



Fig. 16.



Fig. 17.



Fig. 18.

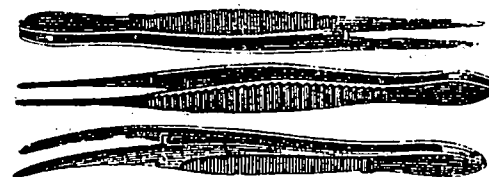


Fig. 19.

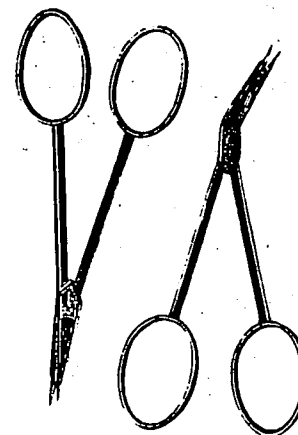


Fig. 20.

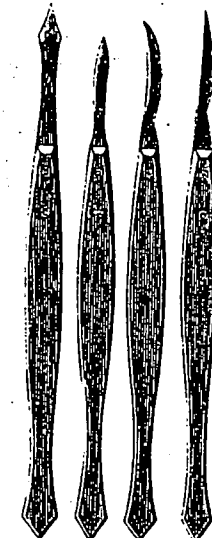


Fig. 22.



Fig. 21.

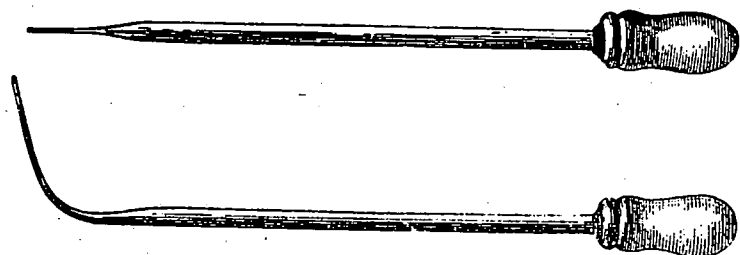


Fig. 23.

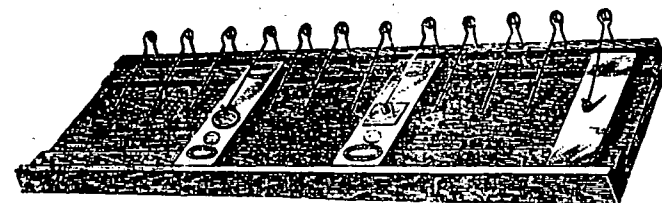


Fig. 24.

18.

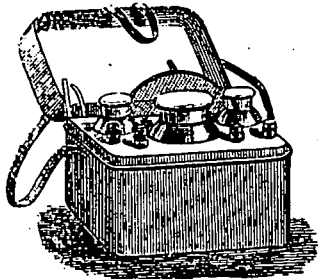


Fig. 25.



Fig. 26.



Fig. 27.

- [Fig. 25.] Collecting Case, with sling strap for the shoulder, containing Bottles, Net, &c. Particularly recommended for Microscopical excursions. \$ 6 00  
 [Fig. 26.] Brass Table, with lamp for heating slides. 1 50  
 [Fig. 27.] Jeffries' Marine Glue. 60

Elastic Shellac, 75c. Canada Balsam, 40c.  
 Glycerine Jelly, 75c. Gold Size, 25c.  
 Concentrated Glycerine, 50c. Elastic Asphalta, 25c.  
 Damar Cement, 40c. Bell's Cell Cement, 75c.  
 Caoutchouc and Shellac Cement for making Cells, 50c.

### Boxes, Cases and Cabinets for Objects.

We solicit the attention of Physicians, Medical Students, and Officers and Members of Microscopical Societies to the following description of Boxes, Cases and Cabinets for Microscopic Specimens:

For 1 or 3 Objects, for mailing.	each,	\$ .08
For 6 do do	do	12
For 10 do do	do	15
For 25 do do	do	25
Neat Cloth Covered Boxes, with racks, for 25 Objects.	each,	75
do do do do 50 do	do	1 50
Black Walnut Case, with walnut racks, for 72 Objects.	do	3 50
Mahogany Case with 6 Trays holding 36 Objects to lie flat.	do	3 00
do do 12 do do 72 do do	do	5 00
do do 12 do do 144 do do	do	10 00

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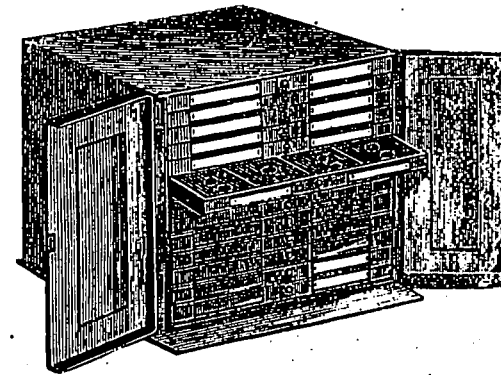


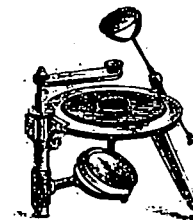
Fig. 27.

### Black Walnut or Mahogany Cabinets.

Porcelain Knobs, with Number and Silicate Tablets, for Names of Objects.

#### OBJECTS LIE FLAT.

For 300 Objects, 10 Drawers, [Fig. 27.]	\$25 00
For 520 do 13 do	35 00
For 1,200 do 21 do	45 00

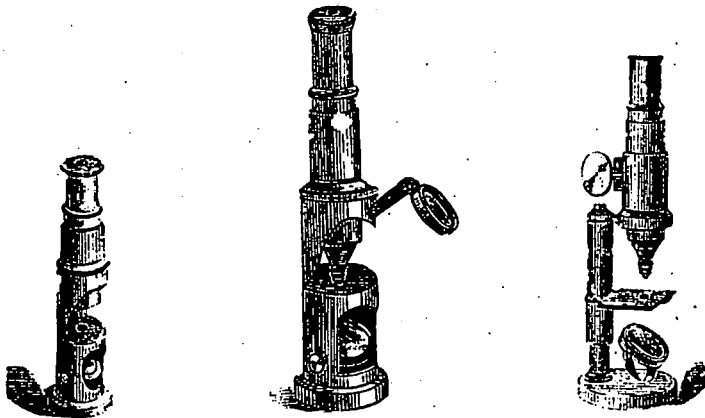


### Dissecting Microscopes.

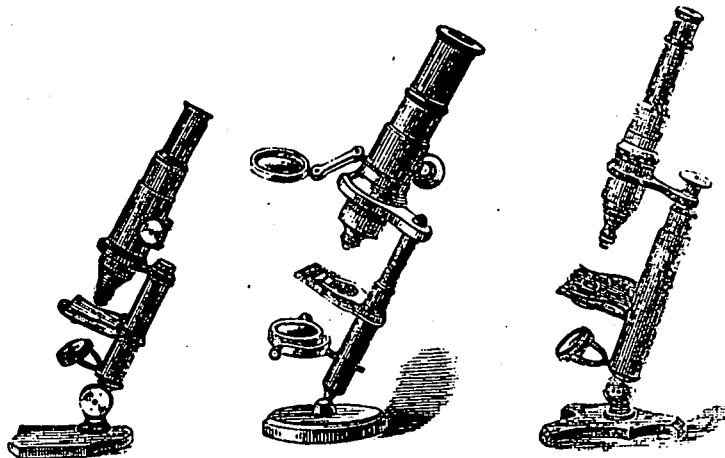
A complete Dissecting Microscope, that has been favorably noticed by Dr. Carpenter, consists of a brass frame and legs supporting a circular glass stage plate, 4 inches diameter. Below is a mirror to facilitate the dissection of transparent objects, and above a condensing lens for such as are opaque. Three simple powers of 2 inch, 1 inch, and  $\frac{1}{2}$  inch focus are adapted to a brass arm, and their foci adjusted by rack and pinion. Price, in mahogany cabinet, \$30 00

We beg leave to call the attention of Microscopists and others to the following list of articles which are constantly importing, and always keep on hand:

## Non-Achromatic Microscopes.



26. Microscope, brass body, 6 inches high, 1 object lens, power 40 diameters, in mahogany box, \$ 3 00
26. Microscope, brass body, 7½ inches high, 2 object lenses, power 40 and 60 diameters, in mahogany box, 5 00
27. Microscope, brass body, 7½ inches high, 3 object lenses, power 40, 60, and 100 diameters, and condensing lens for illuminating opaque objects in mahogany box, 7 50
28. Achromatic Microscope, with broad circular base; excellent rack and pinion adjustment for focus; draw tube; 1 eye-piece, and 1 dividing object glass, of three powers, 50, 100, and 220 diameters; needles, forceps, and 2 prepared objects; in mahogany box, 16 00
29. The same as 28, with addition of joint to incline at any angle, 20 00



29. Achromatic Microscope, brass body, 9 inches high, with ball and socket joint at foot for inclining it to any angle, rack adjustment for focus, condensing lens for illuminating opaque objects, spring clips for holding the object slide, power 50, 100, and 125 diameters in mahogany box, \$22 50
30. Achromatic Microscope, brass body 9½ inches high, with joint to incline it to any angle, quick and fine adjustment for focus, draw tube, spring clips for holding the object slide, diaphragm under the stage with different sized openings, iron base, power 50, 250, and 200 diameters, in mahogany box, 25 00
31. Achromatic Microscope, brass body 9½ inches high, with joint to incline it to any angle, quick and fine adjustment for focus, draw tube, spring clips for holding the object slide, diaphragm under the stage with different sized openings, iron base, power 50, 250, and 200 diameters, in mahogany box, 25 00

## First-Class Microscopic Objects.

*From the well-known House of E. WHEELER, London. To these are added a choice Selection of the Finest Preparations, by Topping, Moller, Bourgogne, and other distinguished American and Foreign Artists.*

## INTRODUCTORY REMARKS AND EXPLANATIONS.

Although this Catalogue is intended as a guide in the selection and purchase of Objects, yet it is obvious that no such list can be strictly correct for any considerable time: since new Objects are being added continually, and the vacancies that occur cannot always be filled instantly; hence it is advisable when ordering, to name a few more than the number actually required. In this Catalogue about 2,000 Objects are comprised. The alphabetical arrangement has been preserved throughout as the easiest guide to any particular specimen.

Some of the Objects named are sold at fifty cents each. These are indicated by a green and gilt label; or if on ground edge slips, by having only one white name label. Those at seventy-five cents each have red and gilt labels; or if on ground edge slips, bearing two white name labels.

The objects at fifty cents each, include many Hairs, Feathers, Scales, and similar Animal Substances (not Anatomical); some whole Insects and their separate Organs; Wood Sections and Vegetable Structures; Opaque Objects; and Polariscope Specimens, Recent and Fossil Diatomacea, Spicular, Foraminifera, Polycistina, and Micro-Photographs.

Those at seventy-five cents comprise the best and finest specimens carefully selected from nearly all the Objects forming the fifty cents Series—Muscular Fibre, Tendon, Cartilage, Sections of Bone, Shell, Teeth, Stones, Coal, Test objects, Grouped Selections of Diatomacea, Urinary Deposits, &c.

Fine Anatomical Injected Specimens are generally \$1.00 each.

It is impossible to indicate the price of every Object definitely. The prices marked on the top of each page have a general signification only, and refer to the majority that follow. Some of the exceptions are marked. One Object may often be had at two prices; but the perfection of the specimen will be fully commensurate with the advance cost.

In the preparation of these specimens, the aim has not been so much to reduce the price as it has to improve the quality, by supplying every Object as clean and perfect as its nature will admit, and to select such as afford the best illustrations of special structure or function, and hence of the highest interest both to the student in science and to the popular observer also.

When Objects are ordered from the Catalogue, it is desirable to quote the edition and the page also, because the same Specimen may appear in two places. For example, the Palates of Molluses are found as Opaque Objects at page 33, and for the Polariscope at page 35; Foraminiferous Shells are Opaque at page 33, and Transparent at page 25.

Any person confidently known, or giving reference to those who are, if he desires to purchase a reasonable number of Objects, can have an assortment sent for examination and approval; the carriage both ways, being at his expense. The objects to be returned within one week, and the risk of damage or loss in transit borne by the purchaser.

## Anatomical Injected Specimens. \$1.00.

### Opaque Human Preparations.

Adipose Tissue. Bladder.  
Buccal Membrane.  
Intestine, small and large, surface.  
" " " section.  
" " showing Peyer's Glands.  
Stomach, section and surface.  
Section of Small Intestine, Fœtal.  
Kidney, showing Tubuli uriniferi.  
" " Veins.  
" " Malpighian bodies.  
" " Fœtal state.  
" " Bright's disease.

Liver, two colors.

Lung in health.

" Tubercular disease.

Placenta. Solitary Gland.

Synovial Membrane.

### Morbid Structures. Transparent.

Lung, Grey hepatization, and Pus formed  
" Tubercular granulation in acute  
Phthisis.

Lung, Pneumonia, second stage.

Kidney, Dropsy.

" Bright's disease (also Opaque).

" Fibrous degeneration.

Skin of Hand. Papilloma.

Cancer Cells, Encephaloid and others.

" " from Lip. and Breast.

" " Epithelial from Thigh.

Cancerous Liver, Farr's tubercle.

Fatty degeneration of Heart, and Liver.

Fungoid Liver.

Ringworm Fungus. Achiorion Schœn-  
leinii.

Effects of its attack on the skin and hair.

Section of Fibrous Uterine Tumor.

" Spinal Cord, Paralytic.

Cartilage and Bone of a rickety child.

Globules of Pus.

Elements of a Biliary calculus.

*Frequent additions to the above.*

### From the Lower Animals. Opaque.

Sections of Lung, Kidney, Liver, Intes-  
tines, and other Organs, from Fowl,  
Rabbit, Cat, Boa Constrictor, Sheep,  
Giraffe, Dolphin, Monkey, Tortoise,  
Lion, Rhinoceros, Tiger.  
Palate of Frog and Toad.  
Web of Frog's foot. Ova of Frog.  
Pad of foot: Lion, Panther, Cat.  
Lip with hair: Cat, Rabbit, Rat.  
Gills of Eel, and Lamprey.  
From Toad: Ova, Oviduct, Skin, Blad-  
der, Cloaca, Palate, Poison Glands.  
Summer Expansion of Fat Organs in  
Frog.

### Transparent Sections. Human.

Spinal Cord, Long. and Trans. sections,  
and in separate elementary particles,  
each, \$1.00.

Section of Medulla oblongata, \$1.50.

Nerve Fibre, separate and in section, \$1.50.

Brain, Cerebrum and Cerebellum, \$1.50.

Kidney, Fœtal and Adult. 2 colors.

Section of Bladder. Liver. 2 colors.

Large and Small Intestines, sections.

" " " surface.

Lung, healthy and diseased.

" two colors. Adult and Fœtal state.

Section of Lip, with Root of Beard.

Scalp, with Hair-root Bulbs and Glands.

Skin, Perspiration Glands and Ducts.

Stomach, Vascular Tissue and Areolæ.

Section of Stomach. Adult and Fœtal.

Tongue, showing Papillæ, \$1.50.

Voluntary Muscle, Arteries injected.

Involuntary " " "

Thyroid Gland. Lobe of Parotid Gland.

Spleen of new-born Child.

Mucous Membrane of Intestines, \$1.50.

Section of Testicle, \$1.50. Of Gland of

Penis, \$1.50.

Section of Penis, with Urethra, and

Corpora cavernosa, \$1.50. If with

Gland of Penis, \$2.00.

Cherry tubercle of Lymphatic Gland.

Section of an Intestinal Villus.

" Lymphatic Gland.

Vermiform appendage to Cecum \$1.50.

Section of Intestine through Peyer's

Glands.

Surface of Intestine, showing Brünner's

Glands.

Ileo-cæcal valve (inner surface), \$1.50.

Vertical section of side of Nostril.

Section of Septum of the Nose.

Tip of Finger and Nail. Tr. & Long.

section, \$1.50.

### From Lower Animals, Transparent.

Brain of Dog, Mouse, Rabbit, Guinea Pig

Spinal Cord of Sheep, Rabbit, Cat.

Lung of Toad, Frog, Newt, Rabbit.

Large and Small Intestines of Rabbit.

Frog, Sheep, Pigeon, Calf, Emu, Toad

Stomach of Rabbit, Mouse, Turtle.

Liver of Dog, Rabbit, Sheep.

Kidney of Hare, Dog, Pig, Rabbit.

Palate of Sheep, Frog, Toad.

Tongue of Toad, Pig, Hedgehog, Sheep.

Frog, Fowl, Rabbit, Cat, Rat, Mouse.

Muscle of Frog, Rabbit, Toad.

Branched Muscular Fibre of Toad.

Gills of Herring.

Section of Upper Beak of Cock.

Hoof of Horse and adjacent Parts, \$1.50.

Femoral Nerves, Paralyzed Horse, \$1.50.

## Anatomical Specimens. 75c., \$1.00, \$1.50.

A Series of twelve slides illustrating  
the Anatomy of the Human Eye.

Trichina spiralis, Human, in the Cyst,

and separated therefrom, \$1.50.

Trichina spiralis in Pork, and Rat, \$1.50.

Head of Cysticercus from Hare, \$1.50.

Cysticerci from Rabbit, and Pike fish.

Ascaris and Tœnia from Lion and other

animals.

Sarcina ventriculi, Human.

Echinococci from Cyst, and Ova.

Pro-glottis of Tœnia solium (sexual or-

gans.)

Cuticle of Finger, with Persp'n Pores.

Oblique section of Cuticle of Hand.

Sections of an Artery, and of a Vein.

Aponeurotic Tissue.

Fibro-Cartilag in cotyloid cavity of hip

joint.

Fat Cells from Adipose tissue.

Hematoidine Crystals in Blood.

Epithelium from Mouth.

Cylindrical and nucleated Epithelium

from the Intestines of Conger Eel.

Alveolar tissue, Matrix of the New Shell

of Crab.

Section of Crystalline Lens in Eye of

Codfish.

Epiderm of Tongue, Mouse, Rat, Rabbit.

Section of Neck of Uterus.

" an Ovary.

" Neck of Bladder.

Salivary Glands from the Tongue.

Sebaceous Glands from Ear.

Nucleated cells in Myolemma of Muscle.

Palate of Sheep. Vert. sec.

Section of Uvula of Sheep.

Mucous glands, Schneiderian Membrane,

Sheep.

Spermatozoa from Garden Snail.

Eutozoa from Cuttle fish, and from Horse

Parasites from various Fish.

BLOOD DISCS (TYPICAL), 75c.

Mammalia, from Man, Carnivora—Cat.

Ruminantia—Sheep, Rodentia—Mouse.

Insectivora—Hedgehog.

Birds—Canary, Passenger, Pigeon.

Reptilia—Snake. Amphibia—Frog,

Triton.

Cartilaginous Fish—Sturgeon.

Osseous Fish—Salmon.

Septa pigment in Skin of Cuttle fish.

PIGMENT CELLS, showing the deposit of

coloring matter in Skin of African

Negro, Caterpillar, Sole, Triton, Frog,

Toad, Snake, Eye of Ox, Human Eye.

Spermatozoa from Man, Bird, Bear,

Elephant, Fish, Mouse, Dog, Horse,

Newt, Rat, Rabbit, Hare, Rhinoceros,

Ram, Goat, Camel, Deer, Wolf, Ass.

### Typical Urinary Deposits, 75c.

Uric Acid in normal and in rare forms.

In Cirrhosis of Liver, Dysentery,

Hepatic Ascites, Pneumonia, Gastric

fever, Hematuria, Acute Rheumatism,

Pericarditis, Pleuritis, Gout, Gastral-

gia, Dyspepsia, Scurvy, Rheumatic

Gout, Rheumatic Fever, Rheumatic

Endocarditis and Pericarditis. Conges-

tion of Lungs, Gout and Ekzema.

Uric Acid from Boa Constrictor.

Urea. Erate of Ammonia. Urate of Soda.

Nitrate of Urea. Oxalate of Urea.

Triple Phosphate Stellate and Rhombic.

Also in Hip-joint disease, Renal cal-

culus, General Paralysis, Ulceration

of Knee-joint, Catarrh of Bladder,

Ramollissement of Brain, Endocarditis

of Brain, and of Acute Rheumatism,

Hepatitis, and Syphilitic Hepatitis.

Hippuric Acid, Typical form.

Oxalate of Lime, Octohedral form.

" " Dumb Bell form.

Carbonate of Lime, from Man and Horse.

Oxalurate of Ammonia. Murexide.

Cholesterine. Sugar of Milk. Sugar

in Diabetes, Cystine or Cystic Oxide.

### TOXICOLOGICAL SERIES.

#### Typical Forms of Poisons.

Animal—Cantharidine from Spanish

Fly.

Metallic—Arsenious Acid, or White

Arsenic.

Metallic—Mercury, from Mercurial Vapor.

" —Tartar Emetic, or Tartarated

Antimony.

Vegetable—Morphine, from Opium.

" —Strychnine, from Nux vom-

ica.

### Human Parasites and Epizoa.

Flea (sexes), Pulex irritans.

Metropolitan B. Flat, Cimex lectularius.

Sexes.

Acarus of Itch, Sarcoptes scabiei, \$1.50.

" " Male and Female, \$2.00.

" " Male, Female, and Larva,

\$2.50.

Acarus of Itch, Male, Female, Larva, and

Ovum, \$3.00.

Face Insect, Demodex folliculorum.

Crab Louse, Pediculus pubis.

Body Louse, Pediculus vestimenti.

Head Louse (sexes), Pediculus capitis.

Ovum of Head Louse on hair in situ.

Head Louse (sexes), with Ovum on hair,

\$1.50.

Harvest Bug, Trombidium Autumnale.

# Animal Substances and Organs 75c. and 50c.

**Muscular Fibre, &c.**  
 Human Cartilage from Sternum.  
 " " Fetal.  
 Cellular Cartilage in ear of Bat.  
 Human Tendon (section).  
 " Muscular Fibre, Voluntary.  
 " " Involuntary.  
 Contractile spiral form assumed by  
 Muscular fibre after cutting.  
 Voluntary Human Muscles, Fetal.  
 Human White Fibrous Tissue.  
 " Yellow Elastic Tissue.  
 Striated Ligamentum nuchae from the  
 neck of Giraffe.  
**MUSCULAR FIBRE (VOLUNTARY)—**  
 Mammal—Man.  
 Bird—Pigeon, Turkey.  
 Insect—Blowfly, Bee.  
 Reptile—Salamander, Crocodile.  
 Fish—Lepidostren, Prawu.  
**ULTIMATE FIBROUS STRUCTURE IN**  
 Crystalline Lens—Eye of Man, O.,  
 Frog, Shark.  
 Section of Leather, Calf.  
 " Tanned Skin of Hippopotamus  
**FEATHERS, TRANSPARENT—**  
 From Emue, Goldfinch.  
 " Humming Bird, Nightingale.  
**BARBS or FIBRILS of FEATHERS TYPICAL**  
 of STRUCTURE—  
 From Wing of Condor, Owl, Emue,  
 Ostrich.  
 Young Feather, showing the transition  
 from Down to Feather.  
 Structure of Down from various Birds.  
**Scales of Fish.**  
 Cycloid, Carp and Eel.  
 Ctenoid, Perch and Sole.  
 Ganoid, Lepidosteus section, and surface.  
 " Sturgeon (section only), \$1.00.  
 Placoid, Dog Fish, Shark (opaque).  
 Iridescent Scale of Herring, \$1.00.  
 Scale of Gold Fish, Brilliant Pigment.  
 Scales from Trout, Mullet, Roach, Dace,  
 Pike, Flying Fish, and others.  
**Spines of Echinodermata.**  
 Acrocladia trigonaria.  
 Cidaritis metularia. C. papillata.  
 Diadema Savignyi.  
 Echinus esculentus, and livida.  
 Echinothrix Petersii.  
 Echinocidaritis purpurascens.  
 Echinometra lucunter, = E. heteropora.  
**Hairs, &c.**  
**HAIRS (SUPERFICIAL VIEW)—**  
 From English Mole.  
 " Beaver (felting surface).

From Bat, Australian, Indian, British,  
 " Mouse, Brown, Shrew, White.  
 " Ornithorhynchus paradoxus.  
 " Rein Deer (body,) cellular  
 structure.  
 " Rein Deer (legs) bristly structure.  
 " Russian Sable.  
 " Rat, Fox, Flying Fox.  
 " Wild Rabbit, Squirrel.  
 " Porcupine, showing transition  
 from Hair to Quill.  
 " Sea Mouse.  
 " Seal, Falkland Islands.  
 " Sea Otter, ditto.  
 Human Hair, transverse sections.  
 Human Hair, surface, various kinds.  
 " " beard shavings.  
 " " bulbous roots.  
 " " eyebrows.  
 Fetal Hair, imbricated surface.  
**HAIRS (TRANSVERSE SECTION)—**  
 From Ant Eater, Peccary, Ox, Wild  
 Rabbit.  
 From Eyelash of Whale.  
 " Tail of Asiatic Elephant.  
 " " African Elephant.  
 " " Giraffe.  
 " " Hippopotamus.  
 " " Rhinoceros.  
 " " Siberian Mammoth, from  
 Iceberg.  
 " Whisker of Wild Cat, Leopard,  
 Fox.  
 " Ant Eater and Peccary, (trans.  
 and long. sec.)  
 " Whisker of British Lion "Wallace"  
 " " " Lions "Mrs.  
 " " " Wallace."  
 " " Bengal Tiger "Tippoo  
 " " " Saib."  
 " " Seal and Arctic Walrus  
**PALATE of Garden Snail, Helix aspersa.**  
 " Aplysia punctata.  
 " Neritina fluviatilis.  
 " Natica monilifera.  
 " Sepia officinalis.  
 " Cellular Slug. Chitou. Jan-  
 thina.  
 " Doris bilamelata, and tuber-  
 culata.  
 Young Crab, 1st stage, Carcinus maenas.  
 Cyclops quadracornis (Entomostraca).  
 Chirocephalus diaphanus (Entomo-  
 straca.)  
 Cypris fusca (Crustacean.)  
 Embryo crystals forming Shell of Garden  
 Snail.  
 Ova of Lobster and Shrimp.  
 Hair, Palates, and Skin for Polariscope,

# Bone, Teeth, Shell, Spicules, Soundings, &c. 75c. and 50c.

**Sections of Human Bones.**  
 Clavicle (transverse).  
 Femur (transverse and longitudinal).  
 Skull, parietal and frontal.  
 Earthy Matter of Femur.  
 Animal Matter of Femur.  
 Fetal Bone, Femur (transverse).  
 " " (longitudinal).  
 A Series of 12 slides illustrating the  
 Structure and Growth of Human Bone.  
 \$9.00.  
**Sections of Bone.**  
 Bone of Albatros Armadillo.  
 " Boa Constrictor, Chimpanzee.  
 " Crocodile, Elephant, Eagle.  
 " Flying Fish, Gorilla, Grampus.  
 " Lion, Rhinoceros, Saw Fish.  
 " Silurus, Toad, Toad (Surinam).  
 " Turtle (fin), Walrus, Whale, &c.  
**Sections of Teeth.**  
 From Alligator, Cat Fish, Deer, Dolphin.  
 " Dugong, Hippopotamus, Fox,  
 Hare.  
 " Horse, Human (various), Mylio-  
 bats.  
 " Zygodontis, Porcupine, Rhinoceros.  
 " Rabbit, Rat, Ox, Saw Fish, Silurus.  
 " Sheep, Shark, Sperm Whale.  
 " Suis Gigas, Tiger, Wild Cat, Wal-  
 rus.  
 Ossification of Pulp cavity in Tooth of  
 Elephant.  
**Sections of Shell, &c.**  
 Egg of Emue, Cassowary, Goose.  
 Swan, showing Atrating holes.  
 Crystals of Carbonate of Lime, forming  
 the Soft Shell of Hen's Egg.  
 Egg of Ostrich (superficial and vertical).  
 Pearl Oyster, Avicula Margaritacea  
 Haliotis splendens, \$1.00.  
 Pinna marina (vert. sec. and surface).  
 Crab (vertical and superficial section).  
 Cypraea annulus.  
 Melaugrina Margaritifera.  
 Oliva Peruviana.  
 Ricinula ricinus, (long. sec.) \$1.00.  
 Mitra cucumerina, " "  
 Cerithium atratum, " "  
 Terobranchia Australis.  
 Orbiculus complanatus.  
 Foraminifera, in Limestone Rock.  
 Section of White Coral, Hydrophora  
 rigida.  
 Section of White Coral, Seriatopora  
 hystrix.  
 Section of Red Coral.  
 " Pearls from River Tay.

**Spicula from Zoophytes, &c.**  
 Alcyonium digitatum.  
 Spongilla Meyeni, Ceylon.  
 " plumosa, Bombay.  
 Glass Rope Sponge, Hyalonema mirabile  
 and Carteria Japonica. Groups, 75c  
 to \$1.50.  
 Geodia Baretti. Grantia compressa.  
 Hymedesmia Johnsonii.  
 Halichondria Griffithsii.  
 Tethia cranium. Tethia lyncurium.  
 Gemmules of Spongia Geodia.  
 Section of Smyrna Sponge.  
 British Spongilla, with Spicula in situ.  
 Fibres from Euplectella speciosa.  
 Spines of Spatangus purpureus.  
 Spicula of Gorgonias, various.  
 Ambulacral discs from Echinus.  
 Anchors and Plates from Synapta  
 digitata.  
 Holothuria. Bohadschia marmorata.  
 " Sporadipus (1 Sp.)  
 " Stichopus Hermannii.  
 " Florida and Edulis.  
 Wheel Plates from Chirodota violacea.  
 Hooks and Plates from Astrophyton  
 Linkii.  
**Ocean Telegraph Soundings.**  
 From Indian Ocean 2,200 fathoms.  
 " Red Sea, Selections.  
 " Persian Gulf, 504 fathoms.  
 " Coast of Malabar, 188 fathoms.  
 By Professor Sir Wm. Thompson, F.R.S.  
 1855. Atlantic Ocean, 2,070 fathoms.  
 1861. " " 2 miles deep.  
**Diatomaceae, &c., from Guano.**  
 Old Ichaboe, 1814. New, 1860. Mexico.  
 Lobos de Tierra. Canary Islands. Potos.  
 Saldannah Bay. Chlucha Islands. St.  
 Helena.  
 Bolivia. New Peruvian, 1832. California.  
 Guanapeo Island. Bay of Mejillones.  
**Recent and Fossil Shells.**  
**FORAMINIFERA.** Single Species in  
 Groups.  
**FORAMINIFERA** from the Adriatic Sea.  
 Bay Bengal, Levant, River Nile,  
 River Dee, Dog's Bay, Coast of  
 Seychelles.  
**POLYCISTINA** from Barbadoes, various.  
 " " Island of Bermuda.  
**POLYCISTINA** in Group. Polycystina mitra  
 Lychnocamium lucerna, Halliomy  
 Humboldtii, Astronoma Aristoteli.  
 Lagena spiralis and striata.  
 Opague Shells at Page 33.

## Test Objects and Diatomaceæ. 75c.

Usual thickness of Covering Glass.  
For 1-1th & 1-2th Objectives .003  
From 1-10th to 1-25 " (\$1.00) .004  
For 1-50th " (\$1.00) .001

### Test Diatoms mounted Dry.

#### GENUS PLEUROSIGMA.

Accuminatum, Balticum, Hippocampus, quadratum, strigosum, strigilis, attenuatum, elongatum, Spencerii, angulatum, fuscicola, scalprum, lacustre, macrum, aestuari.

NAVICULA—cuspidata, crassinervis, N. rhomboides, or the Amician test, Surirella gemma, Hyalodiscus subtilis, Amphipleura pellucida.

### Test Diatoms in Balsam.

#### PLEUROSIGMA.

Formosum, decorum, Hippocampus, Balticum, strigosum, attenuatum, strigilis.

Navicula cuspidata.

Nitzschia sigma, N. birostrata.

" panduriformis.

Grammatophora marini, G. serpentina, subtilissima.

Moller's Test Diatomaceæ. Twenty on One Slide, with Case and Catalogue, \$1.00.

### Miscellaneous Test Objects.

#### SCALES of Lepisma saccharinum.

" Podura plumbea.  
" Lemnocyrtus curvicolis, the Original by the late Richard Beck.  
" Greenhouse Degeeria.  
" Templetomia nitida.  
" Macrotoma major.  
" Petrobius maritimus.  
" Meadow Brown—Hipparchia janira.  
" White Cabbage (large)—Pontia brassica.  
" Do. (small)—Pieris rapae.  
" Green Forester—Procris statice.  
" Azure Blue—Polyommatus argiolus.  
" Brazilian Blue—Morphomencla.  
" Brazilian Amathusia Horsfieldii.  
" Cloth Moth—Tinea vestimentii.  
" Gnat—Culex pipiens, Dry.

WING of Gnat, in Balsam.

HAIR of Indian Bat, Australian Bat, Indian Mouse, Larva of Dermestes.

Protoscis of Blowfly. Pygidium of Flea.

Ultimate Fibrous Tissue of Muscle of Pig (Powell's Test). \$1.00.

Disk of Deal (Dr. Carpenter's Test for Achromatism.)

Section of Spine of Echini (Dr. Carpenter's Test for Flatness of Field.)

### Fossil & Recent Diatomaceæ from

Holderness and Ormesby, Yorkshire. Keswick, St. Bees, and Torquay. Isles of Arran, Raasay, and Mull, Scotland.

Peterhead, Premnay Peat, and Caithness Parish of Logie, Coldstone, Aberdeenshire.

Mourne Mountain, Med Combre, Stonyford, and Toome Bridge, Ireland.

Dolgelly in North Wales.

Bergmehl from Sweden and Lapland.

Edible Fossil earth from Java.

Sodertelge, Christianstadt, and Badeschlag, Sweden.

Ringkjobing and Isle of Mors, Jutland.

Tripoli, or Polirschiefer from Bilin, Bohemia.

Eger, and Franzenbad, in Bohemia.

Keiselguhr, Germany.

Berlin.

Litneberg, in Hanover.

Oran in Algeria.

Baldjik in Turkey.

Santa Fiore, and Leghorn.

Sicily, Meron, and the Coast of Spain.

Kiel on the Baltic. Cuxhaven, North Sea.

Salt Marshes on the Coast of Holland.

Coast of Cherbourg.

Cambridge Estate in Barbadoes.

Cornwallis, Nova Scotia.

Calvert County, Maryland.

New Nottingham Deposit, Maryland.

Herring Bay, Nottingham.

Cherryfield, and Monmouth, Maine.

Perley's Meadow, South Brighton, Maine.

Duck Pond and French's Pond, Maine.

The City of Richmond, Virginia.

Sing Sing on Hudson River.

Utah on the Great Salt Lake.

Goose Lake in Michigan.

Greenwich in Connecticut.

Charleston, South Carolina.

River Ferdinand, Florida.

Holland Cliff, Marlborough.

Shokoe Hill, and Bangor.

Montecelli, near New York.

Colon, and Rio Janeiro.

Sau André, Mexico.

Monterey Bay and Los Angeles, Cal.

The Harbor, Hong Kong.

Yarra Yarra River, Australia.

The Western Coast of Australia.

Lamplugh, in South Australia.

## Recent and Fossil Diatomaceæ.

Most of these are in symmetrical Groups, 75c. each.

Acnantes brevipes. A. longipes.  
Actinocyclus Berkeleyi.  
Actinocyclus subtilis. A. Ralfsii.  
Actinoptychus duodenarius.  
Actinoptychus hexagonulo.  
Actinoptychus splendens.  
Actinoptychus trilingulatus, \$1.50.  
Actinoptychus undulatus.  
Amphicampa mirabilis.  
Amphitetras antediluviana.  
Amphitetras nobilis, \$1.00.  
Amphitetras ornata, with 4 and 5 Rays.  
Amphitetras producta.  
Amphipora pulchra, \$1.00.  
Amphora ovalis.  
Arachnoidiscus Ehrenbergii.  
Arachnoidiscus elegans.  
Arachnoidiscus Indicus.  
Arachnoidiscus Japonicus.  
Arachnoidiscus ornatus.  
Asterolampra affinis.  
Asterolampra concinna.  
Asterolampra Brightwelliana, \$1.00.  
Asterolampra Marylandica, \$1.00.  
Asterolampra concinna.  
Asterolampra marginata, \$1.50.  
Asterolampra decora, \$1.00.  
Asterolampra Ralfsiana, \$1.00.  
Asterolampra Rylandsiana, \$1.00.  
Asterolampra Roperiana, \$1.00.  
Asterolampra vulgaris.  
Asteromphalus arachne.  
Asteromphalus Brookei, \$1.00.  
Asteromphalus Moronensis, \$1.00.  
Asteromphalus Ralfsianus, \$1.00.  
Aulacodiscus angulatus, \$1.00.  
Aulacodiscus Comberi.  
Aulacodiscus crux. A. formosus.  
Aulacodiscus Kittonii, \$2.50.  
Aulacodiscus Margaritaceus.  
Aulacodiscus Orientalis, \$1.50.  
Aulacodiscus oreganus.  
Aulacodiscus Petersi.  
Aulacodiscus radiatus.  
Aulacodiscus scaber.  
Auliscus caelatus. A. obscurus.  
Auliscus ovalis. A. punctatus.  
Auliscus sculptus. A. elegans, \$1.00.  
Auliscus Peruvianus, \$1.00.

Biddulphia aurita. B. pulchella.  
Biddulphia laevis. B. obtusa.  
Biddulphia regina. B. reticulata.  
Biddulphia Tuomeyii.  
Biddulphia (New), not named.  
Brightwellia Johnsonii, \$1.00.

Campylodiscus clypeus. C. costatus.  
Campylodiscus Kittonianus, \$1.00 C. cribrosus.  
Campylodiscus limbatus.  
Campylodiscus spiralis. C. Wallichianus.  
Cerataulus turgidus.  
Chastoceros didymum.  
Colletonema neglecta.  
Cocconeis Gregoriana.  
Cocconeis regalis.  
Cocconeis splendida.  
Cocconeis cistula.  
Cocconeis lanceolatum.  
Cocconeis parvum.  
Coscinodiscus asteromphalus.  
Coscinodiscus centralis.  
Coscinodiscus concavus.  
Coscinodiscus elegans.  
Coscinodiscus ellipticus.  
Coscinodiscus gigas. C. lineatus.  
Coscinodiscus New Species, from Japan.  
Coscinodiscus oblongus. C. Normanii.  
Coscinodiscus oculus iridis.  
Coscinodiscus ovalis. C. radiatus.  
Coscinodiscus symmetricus, \$2.50.  
Coscinodiscus tuberculatus.  
Cestodiscus ovalis.  
Olimascopeia menilligera.  
Craspedodiscus coscinodiscus.  
Craspedodiscus elegans, \$1.00.  
Creswellia ferox. C. superba, \$1.00.  
Cyclotella astrea. C. rotula.  
Cyclotella Dallasiana.  
Cymbella Ehrenbergii. C. gasteroides.  
Cymatopleura elliptica. C. solea.  
Denticula sinuata.  
Diatoma grande. D. vulgare.  
Diocladia capreolus.  
Donkinia carinata and minuta.  
Doriphora Boekii.  
Epithemia gibba. E. granulata.  
Epithemia turgida.  
Endyctia oceanica.  
Encyonema paradoxum.  
Eunotia inclisa. E. menodon. E. triodon.  
Eunotia tetradon. E. polydon.  
Eupodiscus Argus. E. Jonesianus.  
Eupodiscus Hardmanianus, \$1.00.  
Eupodiscus radiatus. E. Rogersii.  
Euphyllidium spatulatum.  
Fragillaria capucina. F. virescens.  
Gephyria incurvata.  
Glyphodiscus stellatus, \$1.50.  
Glyphodiscus eximia.  
Gomphonema gemmatum. G. olivaceum.

Many rare species may be had that are not in Catalogue.

## Recent and Fossil Diatomaceæ.

Most of these are in symmetrical Groups, 75c. each.

## Heliopelta metli, and Varieties.

Hemidiscus cuneiformis.  
Himantidium pectinale.  
Hemocladia Martiniana.  
Hemianulus alatus. H. polychetorum.  
Hyalodiscus subtilis. H. stelliger.  
Hydrosera triquetra.  
Isthmia enervis. I. nervosa.  
Isthmia Growing on Algae.  
Licmophora splendida, \$1.00.  
Meridion circulara, Natural state.  
Mastogloia Grevillii.  
Melosira radians. M. varians.  
Navicula Amphilebena. N. alavata.  
Navicula Bombus. N. Brightwellii.  
Navicula convexa. N. clepsydra.  
Navicula Egyptica. N. didyma.  
Navicula elliptica. N. Entomon.  
Navicula firma. N. formosa. N. ventricosa.  
Navicula granulata. N. humerosa.  
Navicula Johnsonii. N. Jennerii.  
Navicula Henedyil, \$1.00 N. Samatensis.  
Navicula Lyra. N. Lewisiana. N. maxima.  
Navicula Robertsoniana. N. rimosa.  
Navicula pretexta. N. pandura. N. quadrata.  
Navicula seriana. N. spectabilis. N. Smithii.  
Navicula splendida. N. strangulata, \$1.00.  
Navicula virgata. N. trochus. N. maculata.  
Nitzschia birostrata.  
Nitzschia insignis. N. obliqua.  
Nitzschia panduriformis.  
Nitzschia scalaris. N. sigmoidea.  
Nitzschia signa.  
Nitzschia vivax.  
Odontidium Harrisonii. O. mesodon.  
Omphalopelta cellulosa.  
Omphalopelta versicolor, \$1.50.  
Orthosira arenaria.  
Pinnularia alpina. P. cardinalis. P. Johnsonii.  
Pinnularia lata. P. major. P. acrocophonia.  
Pinnularia nobilis. P. oblonga.  
Pinnularia viridis.  
Plagiogramma elongatum.  
Plagiogramma Hardmanianum, \$1.50.  
Polymyxos coronata, \$1.00.  
Porodiscus elegans.  
Pyxidicula cruciata.

Rhabdonema Adriatica. N. arcuatum.  
Rhabdonema miniferum.  
Rylandsia biradiata, \$1.50.  
Schizonema Grevillii.  
Seriatophora hystrix.  
Sollum excelsum.  
Spatangidium Ruffsianum, \$1.00.  
Stauroneis acuta. S. Phoenicenteron.  
Stauroneis pulchella.  
Stephanogonia Danica.  
Stephanodiscus nigra.  
Stictodiscus Californicus, \$1.50.  
Stictodesmis Australis.  
Surirella biseriala. S. constricta.  
Surirella fastuosa. S. minuta.  
Surirella nobilis. S. ovalis. S. decora.  
Surirella Slaviciensis.  
Synedra capitata. S. crystalina. S. fulgens.  
Synedra radians. S. robusta. S. Henneydiana.  
Synedra splendens. S. superba. S. ulna.  
Synedra undulata. S. longissima.  
Symbolophora trinitatis.  
Syndendrium diadema.  
Tabellaria fenestrata.  
Terpsinoë musica.  
Toxinaidea Gregoriana.  
Triceratium arcticum. T. armatum, \$1.00.  
Triceratium brachiatum, \$1.00.  
Triceratium coniferum, \$1.00.  
Triceratium cinnamomeum, \$1.00.  
Triceratium favus. T. imbricatum.  
Triceratium grande, \$1.00. T. megastomum, \$1.00.  
Triceratium Marylandica, \$1.00.  
Triceratium Monterey. T. Margaritaceum.  
Triceratium orbiculatum.  
Triceratium parallelum, \$1.00. T. scitulum.  
Triceratium spicatum. T. striolatum.  
Triceratium subcapitatum, \$2.50. T. serratum.  
Triceratium variabile, \$1.00. T. Zonatulatum, \$1.00.  
Triceratium New species. T. venosum.  
Trinacria excavata. T. regina.  
Tryblionella gracilis.  
Xanthiopyxis umbonatus.  
Zygoceros rhombus.

The Specimens marked at the higher prices are extremely scarce and rare. The probability of duplicating them is very remote.

A very superior Pocket Compound Achromatic Microscope,  $3\frac{1}{2}$  inches long by  $\frac{1}{4}$  inch diameter, is made specially for collecting Diatomaceæ. It gives excellent definition, a good field, and power 100 diameters, under which most of the genera and species of the Diatomaceæ may be recognized. Price \$10.00.

Fossil Wood, Bone, Coal. Geological Specimens.  
75 Cts. 75 Cts.

## Fossil Substances.

Vertical and transverse sections of the Teeth of Shark and other Fish.  
Scales, Bones and Teeth of Fish in situ from Northumberland Coal Shale.  
Coprolites, from Lyme Regis.  
Fossil Sponge.  
" Coral, Acervularia pentagona, Torquay.  
Section of Belemnite, East Indies.  
Pentacrinus basaltiformis.  
Trocyathus copulus from Greensand.  
Fossil Foraminifera in Limestone.  
" Nummulate from Mokottan Mountains.  
Madrepores, various, from Devonshire.  
Flint, with various organic remains, Spicules, Sponges, Corals, Xanthidia (or Sporangia).  
FOSSIL BONE OF MAN, Guadeloupe Skeleton.  
FOSSIL BONE OF Mastodon.  
" " Irish Elk.  
" " Crocodile.  
" " Dugong.  
" " Ichthyosaurus.  
" " Iguanodon.  
" " Pterodactyl.  
" " Whale.  
" " Diornis giganteus from New Zealand.

## Sections of Coal.

Transverse, vertical, and radial, from Derbyshire, Staffordshire, Newcastle, Yorkshire, Scotland, Wales, China, and America.  
White Coal from Eastern Australia.  
Cannel or Parrot Coal.  
Torbane Hill Coal, from which Young's Paraffin Oil is made.

## Sections of Fossil Wood.

Endogens from Antigua, &c.  
Palm from West Indies and Ceylon.  
Fern, stem and root.  
Conifers and Exogens from Derbyshire, Portland, Lough Neagh.  
Very rare and some unknown Fossil plants from the Lancashire Coal;  
Calamites, Calamodendrons, Dictyoxylon, Sigillaria, Stigmara and their allied forms.  
Spores of Ferns in Coal.  
Fibrous Fossil Wood, Egypt.  
Opalized Wood, Tasmania.  
Sections of Jet, Whitby.

See also those at page 36.

Asbestos from Cornwall.  
" in the Fibrous form.  
Moss Agates, various.  
Basalt from Giant's Causeway, Ireland.  
" " Fingal's Cave, Isle of Staffa.  
" " Cleveland, Yorkshire.  
" " Rowley Regis, Staffordshire.  
Stalactite from a Derbyshire Cavern.  
Gneiss. Hornblend Rock.  
Greestone from Guernsey.  
Greywacke from Labrador.  
GRANITE from Aberdeen.  
" Peterhead, and Guernsey.  
" Greenland's Ice Mountains.  
" Cheesewrig, Cornwall.  
" Isle of Mull, Scotland.  
" Mourne Mountain, Ireland.  
Syenite from Mount Sorrell, Leicestershire.  
Syenite Sarcophagus in Great Pyramid.  
LIMESTONE, Magnesian, Dudley.  
" Mountain, Scotland.  
" Upper Silurian, Dudley.  
" Oolitic, Clifton and Bath.  
" Foundation Stone of Old Blackfriars Bridge.  
" Basaltiform from Himalayan Mountains, and from Herculaneum.  
" Lyme Regis and Portland.  
" Germany and Egypt.  
" from Niagara Falls.  
" Blue Lias from Lyme Regis.  
" from Yoredale, Yorkshire.  
" Limestone, from Mount Lebanon.

Many of the above contain interesting organisms—Foraminifera, Echini, Shells, Coral, Spicules, Nummulites, &c., &c.

Lapis lazuli from Persia. So. America.  
Lepidolite. Mica.  
Madrepores, various, Torquay.  
Enerinital Marble, Derbyshire.  
Carrara Marble, Temple of Ephesus.  
Green Malachite from Russia.  
Chesseyite (blue) from Australia, \$1.00.  
New Red Sandstone, Cumberland.  
Old Red Sandstone, Scotland.  
Pitch Stone, Isle of Arran.  
Red Porphyry, Egypt.  
Brown Porphyry, Sweden.  
Heliotrope, Blood Stone.  
Serpentine, Red and Green, Cornwall.  
Laurentian Serpentine, Canada, \$1.00.  
Trachite from the Rhine.  
Yorkshire Pavement Stone.  
White Chert. (Mountain Limestone formation.)

## Micro-Photographs. 60 Cts.

200 Kings and Queens of England.  
Her Majesty Queen Victoria.  
The late Prince Consort.  
The Royal Family, 1861.  
The Prince and Princess of Wales.  
Napoleon III. and Eugenie.  
Shakespeare.  
General Garibaldi.  
Right Hon. W. E. Gladstone.  
Right Hon. John Bright, M. P.  
Charles Dickens. Sir John Herschell.  
The Lord's Prayer Illuminated.  
The Creed " "  
The Ten Commandments "  
The whole of the Sermon on the Mount,  
Matt. ch. v., vi., vii.  
Sturgeon's Tablet.  
The Crucifixion, Michael Angelo.  
The Descent, José Bellver.  
Christ Blessing Little Children.  
Rebecca and Laban.  
St. Peter released from Prison.  
The Fall of Nineveh, Martin.  
The Fall of Babylon " "  
Belshazzar's Feast " "  
Passage of the Red Sea " "  
The Great Day of His  
Wrath " "  
The Great Pyramid and Sphinx.  
Hindoo Mosque, A. D. 1469.  
Group of Elephants, from Life.  
Notre Dame Cathedral, Paris.  
Milan Cathedral. View of Rome.  
The Falls of Niagara.  
Fingal's Cave (Staffa), Interior.  
" " Exterior.  
The Giant's Causeway.  
Tintern Abbey. Fountains Abbey.  
Melrose Abbey. York Minster.  
Lincoln Cathedral, Interior.  
Windsor Castle. Osborne House.

Balmoral Castle.  
Sir Walter Scott's Monument.  
St. Paul's Cathedral. Trafalgar Square.  
The Houses of Parliament.  
The Crystal Palace and Fountains.  
Moonlight on the Sea.  
Great Eastern Steam Ship.  
American River Steam Ship.  
Ascending Mont Blanc.  
Napoleon crossing the Alps.  
£1,000 Bank of England Note.  
The Times Newspaper. 12,500 words.  
Dickens's Christmas Carol.  
Bardell *versus* Pickwick.  
The Origin of Species made easy.  
Title Page of Punch.  
Map of Europe.  
The Marriage of Her Majesty.  
Uncle Tom and Eva.  
The Play Scene in Hamlet.  
Othello relating his Adventures.  
The Death of Lord Nelson.  
The Dame School. The Orphans.  
Happy as a King.  
The Village School in Uproar.  
The Blind Fiddler.  
Laying down the Law.  
Bolton Abbey in Olden Time.  
The South Sea Bubble.  
The Horse Fair, Mdle. Bonheur.  
Belfast Naturalists' Club, at Giant's  
Causeway.  
The Moon.  
The Planet Saturn, Belts, Moons, Rings.  
The Planet Jupiter, Belts, Moons, &c.  
Statuary—Sabinus. Ariadne. Una and  
the Lion.  
Ditto. Cupid and Psyche. Hagar and  
Ishmael.  
Equestrian Statue of Richard 2d, by  
Baron Marochetti.

Any one sending a good Carte-de-visite (or preferably the Negative Plate) can have one  
dozen copies mounted as transparent Micro-photographs. Price, \$9.00.

## Parasitic Insects, Acari, &c. 50c, 75c. & upwards

Parasites from Bee, Canary, Crow,  
Curlew, Dog, Fowl, Gull, Eagle,  
Golden Plover, Humming Bird, Hedge-  
hog, Hog, Horse, House Fly, Kestrel,  
Mouse, Mole, Owl, Ox, Oyster Catcher,  
Passenger Pigeon, Rook, Starling,  
Sheep, Squirrel, Tern, Turkey, Water  
Rat, Wood Pigeon, Vampire Bat,  
(Calcutta), and British Beetles.  
Tick from Sheep, Hedgehog, and Red  
Deer.  
Flea from Bat, Cat, Dog, Fowl, Pigeon,  
Squirrel, Hedgehog.  
Mole's Flea, without Eyes.

Coccus or Scale Insect in Skin of Orange.  
Acari or Mites from Ergot of Rye.  
Meal Mites, *Tyroglyphus farinae*.  
Book Mite, *Cheiletus eruditus*, \$1.00.  
House Mite, *Glyciphagus cursor*, \$1.00.  
Mite from Fur skins, *Cheiletus pellia*,  
\$1.00.  
Cheese Mites, male and female, \$1.00.  
Vagrant Mite, *Cheiletus errans*, \$1.00.  
Acari from Rabbit, with Larva, \$1.50.  
Itch Insect from Cat, with Larva, \$1.50.  
Mange Insect from Horse, Sexes and  
Larva, \$2.00.

## Whole Insects. 75c. and \$1.00.

### Fies and their Allies.

Aphis rose, buxi, and others.  
Ant, Formica rufa, and others.  
Blossom Fly, Anthomyia pluvialis.  
Bronze Fly, Pachygaster ater.  
Biting Field Fly, Stomoxys calcitrans.  
Biting (Clegg) Fly, Hematopata pluv-  
ialis.  
Black-tip Fly, Ortalis vifrons.  
Cattle Fly, Musca corvina. Bombilus  
major.  
Corn Fly, Empis livida. E. stercorea.  
Crane Fly, Tipula oleracea \$1.00 and \$1.50  
Dunghill Fly, Spheroctera subaltans.  
Dung Fly, Scatophaga merdaria & others  
Drone Fly, Helophilus pendulus.  
Flirt Fly, Sepsis punctum.  
Fantail Fly, Dolichopus Aeneus.  
Fungus Fly, Mycetophila, various.  
Gnat, Culex pipiens (sexes) the Male \$1.50  
" Window, Rhyphus fenestralis.  
" Ringed, Culex annulatus.  
" Plumed, Chironomus plumosus.  
" Winter, Trichocera hiemalis.  
" Wood, Sciara brunipes.  
Grass Fly, Opiomyza germinationis.  
Hairy Fly, Bibio Marci, B. Johannis.  
Hawk Fly, Diotria rufipes.  
Herbage Fly, Platypalpus fasciatus.  
His Grace, Calobata petronella.  
House Fly, Musca domestica.  
Ichneumon Fly, Ophion luteum \$1.—\$1.50  
Lace Wing Fly, Chrysopa perla, \$1.00.  
Leaf insect, Phyllophorella acerina.  
Mayflower Fly, Dilophus.  
Merrydancer, Hilara maura.  
Mosquito, Culex Mosquito, various, \$1.00.  
Midge, Psychoda.  
Mud Fly, Borboreus longipennis.  
Marsh Fly, Tetanocera aratoria.  
Marsh Crane Fly, Phycoptera.  
May Fly, Ephemera vulgata, \$1.00.—\$1.50  
Nettle Fly, Platystoma seminaria.  
Pearl Fly, Sialis lutaria.  
Scorpion Fly, Panorpa communis.  
Shadow Watcher, Syrphia pipiens.  
Snipe Fly, Leptis scolopacea.  
Snout Fly, Rhingea campestris.  
Saw Fly, Allantus scolopacea.  
Thrips, Phlaeothrips coriaceus.  
Vinegar Fly, Drosophila cellaris.  
Unicorn Fly, Odontocera denticornis.  
Wasp Fly, Syrphus ribesii.  
Window Fly, Phora rufipes.  
Centipede, Lithobius forficatus.  
Millipede, Geophilus electricus.  
Skin of Caterpillar, many species.  
" Silkworm, Bombyx mori.

### Bugs, Beetles, &c.

Corn Bug, Miris erraticus.  
Cuckoo Spit, Aphrophora spumaria.  
Collared Florist, Anthobium torquatum.  
Cardinal Beetle, Pyrochroa rubens.  
Beetle, Cercopsis sanguinolenta.  
Earwig, Forficula auricularia.  
Frog Hopper, Amblycephalus veridus.  
Grass Hopper, Locusta viridis, \$1.00.  
Glow-worm, Lampyrus noctiluca, \$1.00,  
(sexes.)  
Grass Flea, Thyamis femoralis.  
Lady Bird, Coccinella variabilis, &c.  
Parsnip Beetle, Anaspis melanopa.  
Pond Beetle, Lactophilus minutus.  
Mud Beetle, Hyphydrus ovatus.  
Marsh Flea, Delphax lineata.  
Soldier Beetle, Lathrobium melanurus.  
Sailor Beetle, Halipus lineatocollis.  
Scissor Bug, Capsus planicornis.  
Thistle Beetle, Crepidodera ferruginea.  
Wood Beetle, Leptura levis.  
Water Beetle, Hygrotus elegans.  
Water Bug, Corixa fossarum.  
Water Boatman, Notonecta glauca.  
Water Scorpion, Nepa cinerea, \$1.00  
Pond Skater, Gerris lacustris.  
Ditch Skater, Velia rivulorum.  
One Clawed Water Bug, Naucoria cimi-  
colides.  
Tingis, Larva, Pupa, Imago, various, \$1.  
Earth Mite, Trombidium olivaceum.

### Spiders.

Bush Spider, Agelena nava.  
Garden Spider, Epeira diadema.  
Ground Spider, Lycosa agrestica.  
House Spider, Aranea labyrinthica.  
Harvest Spider, Phalangium cornutum,  
\$1.00.  
Hunting Spider, Drassus lucifugus.  
Shepherd Spider, Opilio, \$1.00.  
Water Spider, Argyroseta aquatica, \$1.  
Water Wolf, Lycosa aquatica, \$1.00.

### Larvæ and Pupæ.

Pupa of Water Boatman.  
Larva of Ant-Lion, Myrmelion formica-  
rius, \$1.50.  
Larva of Cardinal Beetle, Pyrochroa  
coccinea.  
Larva of Dragon Fly, Ermine Moth.  
" May Fly, Luce Wing Fly.  
" Water Beetles, various.  
" and Pupa of Gnat, in fluid, \$1.00  
" Flea, House and Blow Fly.  
" Bot Fly in Egg, on hair of Horse  
" Lady Bird, Coccinella, also Pupa  
" Click Beetle (Wire Worm).

About twice the number of Species here named are usually in Stock, and the sexes of some  
can be supplied. For Parasites and Acari, page 30.



## Parts of Insects. 75c. and 50c.

- ANTENNAE of Cockchafer and Gnat, sexes  
 " House Fly and Blow Fly,  
 " Bee, Wasp.  
 " Hornet, Moths, and Butter-  
 " flies.
- HEAD of Butterflies and Moths, Crane Fly  
 " Gnat and Mosquito with Lances  
 Glands and Nerves in Head of Honey  
 Bee, \$1.00.
- Envelope, &c. of Brain of Honey Bee, \$1  
 EYE, showing facets in Cornea, trans.  
 " Cockchafer. Crane Fly.  
 " Dragon Fly. Drone Fly.  
 " House Fly. Blow Fly.  
 " Humble Bee. Honey Bee.  
 " Butterfly. Moth.  
 " of Beetle, prepared to show multi-  
 plied images reflected from  
 facets of Cornea.
- See also Opaque Eyes, page 33.
- GIZZARD of Dytiscus. Cockroach.  
 " Cricket. Staphylinus.  
 Hairs from Humble Bee.  
 " Caterpillar of Tiger Moth.  
 " " Vaporizer Moth  
 " Spanish Fire Tail.  
 " Bird Catching Spider.
- STOMACH of Beetle. Blow Fly.  
 FOOT of Caterpillar.  
 LEG and FOOT of Blow Fly.  
 " Drone Fly.  
 " Dung Fly.  
 " Dytiscus.  
 " Gyrinus.  
 " Honey Bee.  
 " Hawk Fly.  
 " Hornet. Wasp.  
 " Ophion.  
 " Pearl Fly.  
 " Saw Fly.  
 " Spiders, various.  
 MOUTH and TONGUE of Wasp.  
 " ORGANS in Head of Spider.
- FEATHERED OAR of Corixa.  
 " Dytiscus.  
 EXPANDING PADDLE, Gyrinus.  
 Larva of Cat's Flea.  
 LANCETS of Flea. Bed Bug.  
 " Gad Fly. Mosquito. Gnat.  
 OVIPOSITOR of Cuckoo Spitt. Crane Fly.  
 " Blow Fly. Drone Fly.  
 " Dragon Fly. Saw Fly.  
 " Frog Hopper. Corn Bug
- PROBOSCIS or TONGUE—Empis Fly.  
 " Butterfly. Blow Fly.  
 " Cricket, Drone Fly.  
 " Gad Fly. House Fly.  
 " Honey Bee, Humble Bee.  
 " Moth, Rhingia, Wasp.
- REPRODUCTIVE ORGANS, Male Wasp.  
 " Hornet.
- SCALES from WINGS of—  
 Buff Tip. Cloth Moth.  
 Death's Head Moth. Ermine Moth.  
 Fritillary. Oak Egger. Paris But-  
 terfly.  
 Giant Silk Moth, Japan and others.
- See also Test Scales, page 26.
- SPINNERET of Silkworm.  
 " Garden Spider.  
 SKIN of Pupa of Chameleon Fly. Cat-  
 erpillar.  
 SKIN of Silk Worm. Garden Spider.  
 SPIRACLES of Blow Fly. Drone Fly.  
 " Cockchafer. Stag Beetle.  
 " Dytiscus. Privet Cater-  
 pillar.  
 " Larva of Blow Fly.  
 " Gad Fly.
- STING of Hornet. Wasp.  
 " Bee, with poison gland and duct
- TAIL of Dolichopus Aeneus.  
 Organs of Illumination in Glow Worm \$1
- TRACHEAE and ORGANS of RESPIRATION-  
 of Silkworm. Flea, \$1.00.  
 Blow Fly. Dytiscus.
- HALTERES of Crane Fly. Drone Fly.  
 " Blow Fly. Rhingia.
- WINGS of Bee, with hooklets.  
 " " hooked together as in  
 flying.  
 " Blow Fly. Earwig.  
 " Butterflies, various.  
 " Dragon Fly. Gnat.  
 " Hornet, with hooklets.  
 " Moths, various.  
 " Wasp, with hooklets.
- Winglet of Blow Fly.  
 ELYTRON of Corixa fossarum.  
 " Water Beetles, various.  
 Buzzing Organ of Fly.  
 Chirping File and Drum of Cricket.  
 Web of Bush Spider.  
 Viscid Lives of Spider's Web.  
 Paper fabric of Wasp's Nest.

For Insect Anatomy, complete on one Slide, see page 33.

## Opaque and Binocular Objects. 50c. and 75c.

- Diatomaceae, various, on Sea Weed, in situ  
 Gemmules of Sponge.  
 Hairs of Peccary, sections.  
 Shell of Orbitolite, section.  
 Spines and Shell of Spatangus.  
 Spicules of Gorgonias, various.  
 Young Oysters. Orbitolites in group.  
 FEATHERS of Humming Birds.  
 " Love Bird. Peacock.  
 " Rifle Bird, Australia.  
 SKIN of Sole, from Belly and Back.  
 " Great Dogfish, and White Shark.  
 Bones of Star Fish, British and Chinese.  
 Gill of Sword Fish.  
 Brittle Starfish, Ophiocoma neglecta.  
 Pedicellaria of Echinus sphaera.  
 " Echinus esculentus.  
 Bones of Uraster rubens.  
 Sponge with Spicules, in situ.  
 Tooth of Myliobatis and Zygobatis.  
 Skin of Tail of Brown Mouse.
- Polyzoa, Corallines, &c.  
 Acamarchis avicularia.  
 Angularia spathulata.  
 Bicellaria ciliata.  
 Bicellaria grandis. B. tuba.  
 Bulgula avicularia.  
 Cellularia avicularia.  
 Crisia eburnea.  
 Flustra foliacea. F. paraceta.  
 Membranipora pilosa.  
 Notamia bursaria.  
 Sertularia operculata, argentea, and  
 rosea.  
 Salicornia farcimoides.
- Whole Insects, &c.  
 Asparagus Beetle. House Fly.  
 Beetles and Weevils, various.  
 British Diamond Beetle.  
 Eggs of Goat Moth. Lackey Moth.  
 " Gipsy " Buff Tip "  
 " Tortoiseshell and other Butter-  
 flies.  
 " Parasite of Pigeon, Humming  
 Bird.  
 " Parasite of Vulture, Chaffinch.  
 " " Bohemian Pheasant.  
 " " Australian Crane.  
 " " Ground Hornbill.  
 " " Dog and Pig.  
 " House Fly, Bed Bug, Flea.  
 " Stove Mite, Tetranychus lapidis.  
 Brilliant Eyes of Gad and other Cattle  
 Flies, \$1.00.  
 Eyes showing facets, from Beetle,  
 House Fly, Butterfly, Moth, Bee,  
 Hornet.
- Eyes of Garden Spider.  
 " Wasp and Dragon Fly with  
 Ocelli.  
 Aphid pierced by Ichneumon Fly.  
 Legs of Dytiscus marginalis.  
 HEADS and Parts of Beetles, Hoplia  
 cerulea.  
 Cyphus germari. Cyphus Hancocki.  
 C. gibba.  
 Cicindela sylvatica. Eustales adaman-  
 tius.  
 Curculio imperialis. Enpholus Schoneri  
 Eutimus nobilis. E. splendens.  
 Hypomeces squamosus. Golden girdle.  
 Exuvium of Myriapoda, Pencil Tail.  
 WING of Magpie Moth, Plumed Moth.  
 " Cloth Moth, Vaporizer.  
 " Chrysoclista lucella.  
 " Argyrethia godartella.  
 " Azure Blue, Butterfly.  
 " Alexis. Clouded Yellow.  
 " Fritillary. Morpho mepelana.  
 " Paris. Peacock. Copper.  
 " Tortoiseshell. Red Admiral.
- PALATE of Halotis tuberculata.  
 " Limpet, Patella vulgaris.  
 " Periwinkle, Littorina littoralis  
 " Trochus zizyphius and crassus  
 " Whelk, Buccinum undatum.  
 " Dog Whelk, Nassa reticulata.  
 " Palludina vivipara, Fusus  
 antiquus.
- Gizzard of Cricket.  
 FORAMINIFERA, Single Species in Groups  
 FORAMINIFERA—from Adriatic Sea, Bay  
 of Bengal, Levant, Rivers Nene and  
 Dee, Red Sea, Colon, Coast of  
 Nychelles.
- These are Transparent at page 25.
- Opaque Objects, mounted expressly for  
 Binocular and Lieberkuhn, in Symmetrical  
 groups, 75 cts. to \$15.00.
- Arachnoidiscus Ehrenbergii.  
 Actinoptychus splendens. A. undulatus.  
 Aulacodiscus Margaritaceus.  
 Biddulphia pulchella. Heliopecta.  
 Campylodiscus costatus, and others.  
 Isthmia nervosa and enervis.  
 Pinnularia major. P. nobilis.  
 Pleurosigma formosum. P. decorum.  
 Triceratium favus.  
 Polycistina, various species, 75cts. to  
 \$3.00.  
 Haliomma Humboldtii.  
 Astromma Aristotelis, 75cts. to \$3.00.  
 Anchors and plates of Synapta digitata.  
 Recent and Fossil Diatomaceae, various.
- These may be had Transparent.

## Opaque and Binocular Objects. 50c. & 75c.

### Opaque Minerals, &c.

Avanturine (artificial). Hypersthène.  
Antimony, Needle form. Red, Oxy-sulphuret.  
Crystals of Berberine, PicROTOXINE.  
Oxalate of Lime. Crystalline Indigo.  
Bismuth. Sulphuret of Iron.  
CRYSTALLINE Oxide of Lead. Lead Ore.  
" Silver, Electro deposit.  
Native Gold from Peru, Natal, and Persia  
Gold Nuggets, California.  
" Dust, British Columbia.  
" Sand with Quartz, Australia.  
" Leaf transmitting Green Light.  
" Pure and Brilliant. Mosaic Gold.  
Fibrous or Moss Copper, nat'l formation  
Granular Copper Ore, South America.  
Peacock and Ruby Copper.  
Iridescent Oxide of Lead. Pure Iridium.  
Crystals of Titanium, from a Blast Furnace.  
Crystalline Larva, from Mount Vesuvius.  
Decomposed Glass from Pompeii.  
Sand or Dust from Eruption of Vesuvius 1872.  
Mysterious Dendritic spots on Writing Paper.

### Vegetable.

LEAF of Deutzia. Nettle, with Stings.  
" Eleagnus, Onosma taurica.  
" Alyssum Olympicum.  
Skeleton Leaf of Box Tree and Indian Ivy.  
SECTION of Leaf of Orchid, Stem of Clematis, Sugar Cane, Shell of Mexican Gourd, Pith of Rice Paper Plant.  
Spores of Quill Wort, from Cashmir.  
SEEDS of Antirrhinum, Poppy, Henbane, Lobel's Catchfly, Orchis, Portulaca.  
POLLEN of Hollyhock, Mallow, Portugal Pine, Geranium, Passion Flower, Lily, Scotch Fir.  
Peristomes of Mosses, many species.  
Funaria hygrometrica, mounted in a cell for Hygrometric experiment.  
Conceptacles and Spores of Fungi, Blight, &c.  
On Leaf of Pea, Erysiphe Martii.  
" Gooseberry, *Æcidium grossulariæ*.  
" Bramble, *Aragia bulbosum*.  
" Willow, *Puccinia pulverulenta*.  
" Alchemilla, *Uredo potentillarum*.  
" Thistle, *Trichobasis suaveolens*.  
" Hop Mildew, *Sphaerotheca castagnei*.  
" Rose, *Phragmidium macronatum*.  
" Elm, *Uncinula alnana*.  
" Lily, *Oidium albicans*.  
" Hazel, *Phyllactinia guttata*.  
Oak Galls by *Neurobius Reaumurii*.

## Algæ, Desmidiaceæ, Fungi, &c. 75 Cts.

### Algæ, Hepaticaceæ, Desmidiaceæ, Muscaceæ.

*Batrachospermum mouliiforme*. B. tenuissimum.  
*Draparnaldea plumosum*. Chætophora.  
*Spirogyra Hydrodictyon*. Rhizoclonium  
*Sphagnum cuspidatum* in leaf and Sec.  
*Sphagnum cymbifolium*.  
*Hypnum abietinum* and prælognum.  
*Frullania dilatata*. *Mniun cuspidatum*.  
*Jungermannia hyalina*. *Trichocolea tormentilla*.  
*Lepidozia reptans*. *Lophocolea bidentata*.  
*Micrasterias rotata*. *Volvox globator*.  
Marine Algæ, Corallines, Polyzoa.  
*Bicellaria grandis*. B. tuba.  
*Calithamnion corymbosum*, and refractum.  
*Calithamnion diaphanum*. C. roseum.  
*Ceramium ciliatum*. C. pellucidum.  
*Ceramium botrysarum*. C. diaphanum.  
C. acanthonotum.  
*Dasya coccinea*.  
*Ectocarpus fasciolatus*.  
*Flustra avicularis*. *Griffithsia setacea*.  
*Notamia bursaria*.  
*Thoa bevil*. *Thoa nalecina*.  
*Cladophora rupestris*. *Ballia callitricha*.  
*Polysiphonia parasitica*. P. Brodiei.  
*Polysiphonia bissoidea*. P. fibrillosa.  
*Polysiphonia fibrata*. P. fastigata.  
*Plocanium vulgare*.  
*Ptilota plumosa*, and elegans.

### Capsules and Spores of Mosses.

*Bryum capillare*. *Dicranum scoparium*.  
*Hypnum rutabulum*. *Tortula unguiculata*.

### Funaria hygrometrica, Ovary in Section.

### Thecæ and Sporules of Ferns.

*Pteris aquilina*, *Polypodium*, *Osmunda regalis*.

### Fungi, Blight, Mould, Mildew.

Smut in Ear and Grain of Wheat.  
Bunt fungus in Corn grains; *Uredo* testida.  
Rust or Corn Mildew, *Puccinia graminis*.  
Red Rust, *Trichobasis rubigo-vera*.  
Eels in Wheat, *Vibrio tritici*.  
Timber fungus, *Arctia nutans*.  
" *Stemonitis fusca*.  
Spiral fungus, *Trichia chrysosperma*.  
Star fungus, *Asterosporium Hoffmannii*.  
Chain-Brand, *Xenodochus carbonarius*.  
Mould from Jam, *Aspergillus umbellatus*.  
Fungus on Pepper Plant, *Aspergillus candidus*.  
Spores of Yeast Plant.  
Section of Truffle, *Tuber cibarium*.

## Polariscope Objects. 50c., 75c. and \$1.00.

### Animal Substances.

PALATE of *Cyclostoma elegans*.  
" *Haliotis tuberculata*.  
" Limpet, *Patella vulgaris*.  
" Periwinkle, *Littorina littoralis*.  
" *Trochus zizphinus*. T. crassus.  
" Whelk, *Buccinum undatum*.  
" Dog Whelk, *Nassa reticulata*.  
CLAW of Cat, Fowl, Three-toed Sloth.  
" Polar Bear, Seal.  
Finger Nail—Human. Cuttings.  
Toe Nail, Transverse Section.  
Corus of Elephant. Human Corns.  
Foot Pad of Dromedary, Cat.  
HOOF of Antelope, Pig, Ox, Reindeer, Zebra.  
HORN of American Bison, and Brahmin Bull. Stag. African and Indian Rhinoceros.  
Quill of Porcupine.  
" Basal portion showing Growth of Quill.  
Whisker of Walrus. Seal. Lioness.  
Spines of Hedgehog.  
Section of Cat's Tongue.  
Bone of Cattle Fish.  
WHALEBONE, Finland Whale. Bottlenose " White Whale, Beluga Catodon.  
Embryo Oysters. Exuvium of Prawn.  
Lancet, Teeth of Medicinal Leech.  
Tendon Achilles, Human. Ostrich. Whale.  
Shells of Snails, Fish, &c.  
Fore Leg of *Dytiscus Marginalis*.  
Elytron of " "  
Crystals of Carbonate of Lime, in Tail of Prawn and Shrimp.  
Plates from Skin of Holothuria.  
Anchors and Plates from *Synapta digitata*.

### Crystallization of the Fatty Acids.

These preparations require to be warmed until the substance melts. Its crystallization may then be observed as it cools on the stage, 75 Cts.

Hard Acid from Human Fat.  
" " Cotton Seed Oil.  
Margaric Acid from Olive Oil.  
Palmitic Acid from Palm Oil.  
Stearic Acid from Ruminants.  
Spermaceti from Fish Oil.

### Animal Substances.

SKIN, Human Cuticle, from Heel.  
" Negro Scalp, with Roots of Hair.  
" Alligator. Giraffe, with Hair.  
" Lip of Calf, with Hair.  
" Nose and Lip of Cat.  
" of Sole and Eel, with Scales in situ.  
" *Synapta*, Anchors and Plates in situ.  
SCALES of Carp, Eel, Perch, Sole, Gudgeon, Dace, Pike, Roach, Trout and Mullet.  
HAIR, Human, White with Age.  
" " Roots and Eyebrows.  
" " Shavings of Beard.  
" " Albino Girl.  
" " Infant.  
" " Young Lady's Eyelash.  
" Gorilla. Brahmin Bull. Reindeer.  
" Polar Bear. White Mouse.  
" Persian Cat.  
" Alpacha Wool, from Llama.  
" Mohair, from Angora Goat.  
" Elephant's Tail, section.  
Genuine Crinoline.  
Cocoon of Silkworm.  
Starch Grains from various Plants.  
Fibres of Hemp, Silk, Cotton, Flax.  
Indian Muslin (Woven Wind).  
Pine Apple Muslin, Philippine Islands.  
Finest French Cambric, 20s. per yard.  
Australian Coralline, *Ballia callitricha*.  
*Cellularia ciliata*.  
*Bicellaria tuba*.  
*Notamia coriculata*.  
*Gemmularia loriculata*.

### Fine Transparent Injections. \$1.00.

SECTION of Cat's Tongue.  
" Human Tongue.  
" " Muscle.  
" Muscle of Wild Cat.  
" " Frog.  
" Toe of White Mouse.

### Polariscopic Objects moving in Fluid. 75c.

Animal Substances Mixed.  
Actinolite.  
Brazilian Pebble Fragments.  
Crystalline Sulphate of Lime.  
Fibrous " "  
Rolling Stones, various.  
Young Oysters.

# Polariscope Objects. 50c. and 75c.

## Chemical Crystals. 50c. and 75c.

Asparagine. Alloxanate of Ammonia.  
Aspartic Acid. Aspartate of Cinchon-  
idon.  
Bitartrate of Ammonia and of Potash.  
Binoxulate of Potash. Bichromate of  
Potash.  
Borax. Boracic Acid.  
Carbazotate of Potash.  
Carbozotate of Cinchonidine.  
Coumarin, from Tonquin Bean.  
Chlorate of Potash. Chlorate of Barium.  
Chloride of Barium.  
Cinchonidine Citric Acid.  
Chrysammate of Lead.  
Crystals from Claret Wine.  
Ferri-cyanide of Potassium.  
Gallic Acid.  
Hippuric Acid.  
Herapathite (Dichromatic).  
Iodide of Potassium.  
Iodo-sulphate of Quinine.  
Murexide (Dichromatic).  
Nitro-prusside of Sodium.  
Oxalate of Ammonia.  
Oxalate of Chromium and Potash, two  
forms.  
Oxalic Acid.  
Oxalurate of Ammonia.  
Pyro-gallic Acid.  
Platino-cyanide of Magnesium (Dicro-  
matic).  
Platino-cyanide of Barium (Dichro-  
matic).  
Platino-cyanide of Thallium.  
Quinidine. Santonine.  
Strychine. Salicine. Saligenine.  
Cane Sugar. Grape Sugar. Manua  
Sugar.  
Sulphate of Nickel and Potash.  
" Magnesia.  
" Copper, Spiral Form.  
" Copper and Magnesia.  
Sulpho-carbolate of Soda.  
Tartaric Acid.  
Thionurate of Ammonia.  
Triple Phosphate, various forms.  
Urea. Uric Acid.  
Uric Acid from Boa Constrictor.  
Carbonate of Lime from Horse.  
**Vegetable Fibres in Balsam.**  
Cotton. China Glass.  
Flax from Ireland and New Zealand.  
Hemp, Russia and Manilla.  
Jute Fibre, Calcutta.  
Silk, Indian, Chinese.  
" Italian, British.  
Wool, British, Australian.  
Pyroxylin (Gun Cotton).  
Shoddy Fibre.

## Stones and Minerals. 75c.

Actinolite. Aventurine.  
Agates, various.  
Asbestiform Serpentine.  
Carbonate of Lime.  
Egyptian Syenite.  
Carrara Marble.  
Granite, various localities.  
Gneiss. Greywacke.  
Italian Alabaster.  
Jasper with Amethyst.  
Labrador Felspar.  
Obsidian from Mount Vesuvius.  
Quartz Rock, various.  
Satin Spar. Sandstone.  
Selenites, various colors.  
Sulphate of Baryta.  
Section of Wavellite.  
Zeolite from Giant's Causeway.

## Vegetable Substances.

Starch from Arrow Root.  
" Calabar Bean.  
" Colchicum autumnale.  
" Jamaica Yam. Lentilla.  
" Potato, Oat, Rice, Rye.  
" Sago Palm, Tapioca.  
" Tous les Mois. Ginger.  
" Maize, Barley, Wheat.  
Starch grains in situ in Section of Potato  
in pod of Broad Bean,  
and in Roots of Fennel,  
Ginger, Ipecacuanha,  
Sarsaparilla.  
*Starches also mounted in Fluid.*  
Cuticle of Leaf of Correa cardinalis.  
" " Deutzia scabra.  
" " Eleagnus.  
" " Onosma tauricum.  
**SILICIOUS CUTICLES—**  
From Equisetum arvense.  
" Dutch Rush, Equisetum hyemale.  
" Husk of Rice Grain.  
" Leaf of Wheat.  
" Leaf of Araucaria imbricata.  
Fibro cells from Erides roseum.  
" " Oncidium bicallosum.  
Scalariform vessels from Pteris aquilina.  
" " Dicksonia An-  
tarctica.  
Spiral vessels from Rhubarb.  
Fern Scales, Ceilanthes Eckloniana.  
" " Elaphoglossum squamosum  
" " Nothochlæna maranta, &  
" " laevis.  
" " Gonolophium sepultum.  
Stellate Hairs from Olyssum Olympicum  
" " Eleagnus. Onosma  
tauricum.  
Wing of Seed of Eccremocarpus.

# Vegetable Preparations. 50c. and 75c.

3 Indicates Transverse, Vertical, and Radial Sections of Stems on one Slide.

Aerial Root of Banyan Tree, Ficus  
Indicus.  
Allspice, Pimenta vulgaris.  
Alder, Alnus glutinosa.  
Amphibium Rantherii.  
Apple Tree, Pyrus malus, 3.  
Araucaria excelsa, Norfolk Island Pine, 3.  
Aristolochia trophodra. A. gigas.  
" ornithocephalus.  
Baobab Tree, Adansonia digitata.  
Berberry, Berberis vulgaris.  
Beech, Fagus sylvatica, 3.  
Bignonia exoleta.  
Brake Fern, Pteris aquilina.  
Burdock, Arctium lappa.  
Butcher's Broom, Ruscus aculeatus.  
Buckthorn, Rhamnus catharticus.  
Cane, Bamboo, Bambusa vulgaris.  
" Malacca, Calamus scipionum.  
" Rattan, Calamus rotang, 3.  
" Sugar, Saccharum officinarum.  
" Wanghao.  
Camphor Tree, Cedrus camphora, 3.  
Catalpa siringifolia, 3.  
Cedar of Lebanon, Cedrus Libanus, 3.  
Cedar of Himalaya, Cedrus deodora, 3.  
Chestnut (Edible), Castanea vesca, 3.  
" (Horse), Esculus hippocas-  
tanum, 3.  
Cotton Grass, Bimeria nivea.  
Cherry Tree, Cerasus communis, 3.  
Chili Pine, Araucaria imbricata, 3.  
Cinnamon Plant, Cinnamomum Zeylan-  
icum.  
Cocoa Nut Palm, Cocos comosa.  
Cork Tree, Quercus suber, 3.  
Cuspidaria pterocarpa.  
Dendrobium nobile, and speciosum  
(Orchid.)  
Dog Rose, Rosa canina.  
Date Palm, Phoenix humilis.  
Elder, Sambucus nigra, 3.  
Elm (British) Ulmus campestris, 3.  
Fern, Dicksonia Antarctica.  
Fennel, Foeniculum officinale.  
Fig Tree, Ficus carica.  
Fredericia speciosa.  
Furze Bush, Ulex Europeanus.  
Gesnera grandis (Orchid.)  
Gum Tree, Eucalyptus, 3.  
Gutta Percha Tree, Isonandra gutta, 3.  
Grape Vine, Vitis vinifera.  
Hornbeam, Carpinus betulus, 3.  
Hibiscus Africanus, 3.  
Ivy, Hedera helix.  
India-rubber, Ficus elastica, 3.  
Jasmine, Jasminum officinale.  
Kaffir Bread, Zamia cycadila.  
Lavender, Lavandula vera.  
Lemon Tree, Citrus limonium.  
Lime Tree, Tilia grandiflora.  
Lace Bark, Lagetta lintearia, 3.  
Land Rush, Juncus communis.  
Larch, Larix Europeanus, 3.  
Mahogany, Swietenia mahagoni, 3.  
Maple, Acer campestre, 3.  
Mimosa nilotica.  
Mulberry, Morus nigra, 3.  
Mistletoe, Viscum album.  
Oak (Evergreen), Quercus pedunculata  
Oak (Forest), Quercus rober, 3.  
Orange, Citrus aurantium, 3.  
Olive Tree, Olea Europea, 3.  
Pampas Grass, Gynenium argentum.  
Passion Flower, Passiflora quadrangu-  
laris.  
Pepper Plants, Piper Bétel.  
" Piper nigrum.  
Pear Tree, Pyrus domestica.  
Pine (Canadian), Pinus strobus, 3.  
Pine Apple, Ananassa lucida.  
Plane Tree, Platanus Occidentalis, 3.  
Sandal Wood, Santalum album, 3.  
Serjania from Rio de la Plata.  
Sago Palm, Cycas revoluta.  
Sarsaparilla, Smilax officinalis.  
Satin Wood, Chloroxylon Swietenia, 3.  
Screw Pine, Pandanus odoratissimus.  
Sea Rush, Juncus maritimus.  
Sunflower, Helianthus annuus.  
Sycamore, Acer, pseudo platanus, 3.  
Tea Tree, Thea Chinensis.  
Traveller's Joy, Clematis vitalba.  
Upas Tree (Java), Antiaris toxicaria, 3.  
Water Plantain, Alisma Plantago.  
Water Lily, Yellow, Nuphar luteum.  
Wild Bignonia from Brazil.  
Walnut Juglans regia, 3.  
Wellingtonia gigantea, 3.  
Willow, Salix alba, 3.  
Weeping Willow, Salix Babylonica, 3.  
Yew, Taxus baccata, 3.  
Section of Petiole of Date Palm, India-  
rubber.  
Bulb of Orchid, sections, vert. and trans.  
14th of Rice Paper Tree.  
Roots of various Trees.  
**Sections of Leaf, Longitudinal and  
Transverse.**  
Of Erides roseum and crispum.  
" Dracena draco and ferrea.  
" India-rubber Tree.  
" Oncidium bicallosum.  
" Moss Rose. Sweet Briar.

OTIS HISTORICAL ARCHIVES  
NATIONAL INSTITUTE OF HEALTH AND MEDICINE  
ARMED FORCES INSTITUTE OF PATHOLOGY

## Vegetable Preparations. 75c.

CUTICLES of Cherry, Plum, Rhubarb.  
of Leaf, Wild Mustard, Ivy,  
Fern.

CUTICLES of PETALS from Geranium,  
Paeony, Pansy, Fritillaria, Nasturtium,  
Verbena.

STOMATA in Cuticle of Orchid, Iris, Lily,  
Aloe, Ivy, Yucca, Paeony, Box,  
Tritoma uvaria, House Leek.

HAIRS from Leaf of Pansy, Groundsel,  
Blanket Plant, Tobacco, Lavender,  
Moss Rose, Sweet Briar, Tillandsia  
argentea.

SPIRAL VESSELS, Collomia Seed, Rhubarb  
Compound Vessels from Nymphaea edulis  
Spiral-annular Vessels, Musa paradisiaca.  
Scalariform Vessels from various Ferns.  
Fructification on Fronds from various  
Ferns.

### Scales from Ferns.

Chellanthus Eckloniana, C. elegans,  
Ceterach officinarum, Goniophlebium  
sepultum, Niphobolus lingua, No-  
thochlana laevis, Nothochlana crassifolia,  
N. maranta, Elaphoglossum  
squamosum.

RAPHIDES in Cactus, Garlic, Hyacinth,  
Onion, Pear, Rhubarb, Water Lily.

The Anatomy of a Leaf complete. Nine pieces on a Slide, \$1.00.

The Anatomy of an Insect complete on One Slide:  
Each composed of 10 to 15 Organs, \$3.00 to \$3.50 each.

The Blow Fly. The Scorpion Fly. The Butterfly. The Earwig.  
A Cattle Fly. A Flesh Fly. The Honey Bee. The Garden Spider.

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These specimens of Mechanical skill and delicate manipulation are written on  
Glass with a Diamond. The prices are proportioned to the  
minuteness of the writing.

The Lord's Prayer, 227 letters, 75c. to \$10.00. The Creed, 480 letters, \$2.50  
upwards. The whole of the Second Chapter of St. John,  
2,070 letters, \$10.50 to \$21.00.

The most simple, certain, and reliable Test for the Definition, Distortion,  
and Flatness of Field, of an Object Glass for the Microscope, is supplied by a  
series of Engraved Parallel Lines and Writing, varying from one-fourth of a  
million, to fifty-three millions of letters to the square-inch. Price \$2.50 to  
\$42.50. See *Quekett Journal*, January, 1873.

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We receive direct from M. Nobert, of Pomerania, his exquisitely fine Bands of  
Lines, ruled on glass, as described in a communication to the *American Naturalist*  
April, 1868, reprinted in the *Quarterly Journal of Microscopical Science*, October,  
1868, p. 131, and referred to in Dr. Carpenter's *Microscope and its Revelations*,  
fourth edition, London, 1868, p. 180.

The latest and finest of M. Nobert's productions consist of a series of Bands  
of Lines from No. 1 to 19, the distance of the divisions in the first being about  
11,000th part of an English inch, and those of the latter the 112,000th part of the  
same. They are mounted in two ways. In the first, price \$60, the lines are  
ruled on a slip of plate glass, protected by a cover of thin microscopic glass.  
The more expensive form, price \$90, has its lines ruled on a plate of microscopic  
glass, thickness .003, and covered by one of corresponding size and thickness.  
These are mounted on a slip of brass 3 inches by 1 inch, so that the lines, being

Filaments from Stamens of Tradescantia

### Pollens, Transparent.

From *Cobaea scandens*. *Enotheria*  
*Convolvulus*, Geranium, Hollyhock,  
Lily, Nasturtium, Flax, Lobelia,  
*Cuphea platycenta*, Mallow, Passion  
Flower, Arum, Yucca, Vegetable  
Marrow, Portugal Pine.

### Sections of Hard Tissues.

Betel Nut Palm, *Areca pumila*.  
Vegetable Ivory Nut.  
Cuticle of ditto, surface and vert. sec.  
SHELL of Cocoa Nut, Brazil Nut.  
" Coquilla Nut, *Attalea funifera*.  
" Mexican Gourd, *Circubita pepo*  
Stone of Apricot, Damson, Peach.  
Transverse Section of Cherry Stone, with  
separate Elementary particles, \$1.00.

### Sections of Seeds and Fruit.

Bitter Almond, Young unripe Orange.  
Hemlock Seed, Coriander, Coffee, Pep-  
per, Wheat, Parsley, Wild Parsley.  
Colomia Seed to show development of  
Spiral Vessels, in fluid, 6d. packet.  
Nine pieces on a Slide, \$1.00.

reversible, may be examined on either side under an achromatic objective of  
one-fiftieth of an inch focus. This form has the advantage of admitting the close  
approach of any achromatic condenser to the Lines, and at the same time facili-  
tates their illumination by the most oblique pencils of rays. The Lines them-  
selves are essentially the same at \$60 and \$90.

Nobert's Test Lines on ordinary glass slip, in morocco case, \$60 00  
Nobert's Test Lines on thin glass in brass frame, in morocco case, 90 00

## Moeller's Diatomaceen Typen Platte.

Moeller's Diatomaceen Typen Platte, No. 1, is a slide of the usual size—three  
by one inch—comprising about 500 Diatoms (correctly 392 distinct species and  
varieties), being acknowledged types of Seventeen Genera of the Order Diatom-  
aceae. The shells are arranged in four quadrangles, each formed of six lines,  
and each line containing about sixteen species, presenting a figure of the follow-  
ing form:

I.						III.					
1	.....					1	.....				
2	.....					2	.....				
3	.....					3	.....				
4	.....					4	.....				
5	.....					5	.....				
6	.....					6	.....				
II.						IV.					
1	.....					1	.....				
2	.....					2	.....				
3	.....					3	.....				
4	.....					4	.....				
5	.....					5	.....				
6	.....					6	.....				

The Diatoms are prepared in the best manner, mounted in Balsam, absolutely  
pure and clean, while the integrity of each and the symmetry of the whole may  
be said to be as perfect as possible.

Easy reference to each member is afforded by an accompanying Printed Cata-  
logue, by which the name of any individual Diatom on the slide may be learn-  
ed; or any name in the Catalogue as easily identified with its corresponding  
shell on the slide.

The classification is that of Herrn A. Grunow, of Berndorf, near Wien.

To the name of each Diatom is appended its nature, whether fossil or recent.  
Its origin, whether marine or from brackish or fresh water. Its geographical  
locality, with the name of the naturalist who assigned its nomenclature.

On the whole it is a marvellous production of human skill and unceasing per-  
severance, a wondrous example of accurate manipulation and delicacy of touch,  
exciting the admiration of all who see it. To the Naturalist and Student it  
forms a Cyclopaedia of reference, which may be long and repeatedly studied,  
with untiring interest and returning freshness. It is worthy of a place in the  
cabinet of every advanced Microscopist.

The price, in morocco case, with bound Catalogue, is \$40 00  
Moeller's Diatomaceen Typen Platte, No. 2, is a smaller collection of  
One Hundred Diatoms by the same artist, arranged on the same  
plan in one quadrangle, accompanied by a printed Catalogue, and  
quite equal in quality to the larger collection. The price of this is 16 00  
Moeller's Diatomaceen Typen Platte, No. 3, is similar to 1952, but has  
the name of each Diatom photographed beneath it, so that speci-  
men and name can be seen at one view. 18 00

Moeller's Diatomaceen Probe Platte is a collection of 20 Diatoms, by  
the same artist, arranged in a single line, on a slide of the usual  
size—3x1 inch—in Balsam, and graduated, according to their  
value as test objects. In a neat morocco leather case, with de-  
scriptive list, 7 00

Moeller's Diatomaceen Probe Platte, the same as 1953, but mounted  
dry 7 50

### Simple Microscopes to fold in Cases.

- 
- Figure 10 consists of five black and white line drawings, labeled 1, 10, 14, 16, and 17, arranged horizontally. Each drawing depicts a different stage or form of a botanical structure, possibly a seed or fruit, showing increasing complexity and branching from left to right. Drawing 1 is a simple, elongated, oval shape with a small circular feature at the top. Drawing 10 is a more complex, elongated shape with a large circular feature at the top and a smaller one at the bottom. Drawing 14 is a Y-shaped structure with two large circular features at the top and a smaller one at the bottom. Drawing 16 is a more complex, branching structure with four large circular features at the top and a smaller one at the bottom. Drawing 17 is the most complex, showing a highly branched structure with multiple circular features of varying sizes.

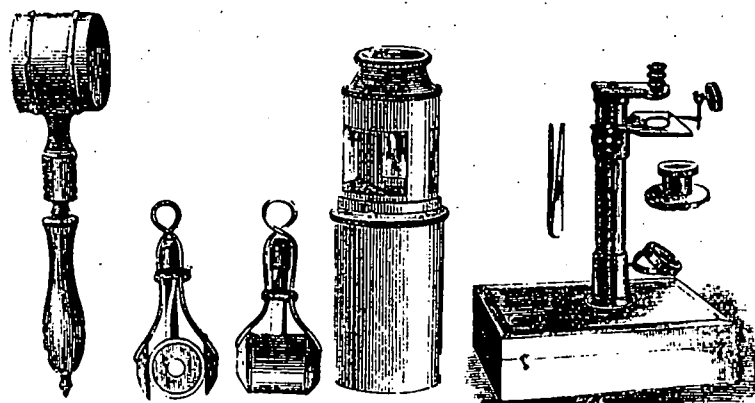
No.							Price.
1	Hard rubber case and frame,	round form,	1 double convex lens,	1 in diam.			\$0.50
1	Do.	do.	1 do.	1 do.			75
2	Do.	do.	1 do.	1 1/2 do.			1.00
3	Do.	do.	1 do.	1 1/2 do.			1.25
4	Do.	do.	1 do.	1 1/2 do.			1.50
5	Do.	do.	1 do.	2 do.			2.25
6	Do.	do.	2 do.	1 do.			75
7	Do.	do.	2 do.	1 1/2 do.			1.25
8	Do.	do.	2 do.	1 1/2 do.			2.00
9	Do.	do.	2 do.	1 1/2 do.			2.50
10	Do.	do.	bellows form	1 do.			75
11	Do.	do.	do.	1 do.			1.00
14	Do.	do.	do.	2 do.			1.25
14	Do.	do.	do.	2 do.			1.50
16	Do.	do.	do.	3 do.			1.75
16	Do.	do.	do.	3 do.			2.00
17	Do.	do.	1 double convex lens,	1/2 inch diameter, of			
	high power at one end, and 1 double convex lens		1/2 inch diameter, of				
	medium power at the other end,						1.50



20 18 19 21 22

- | Books on the Microscope, &c. |                                                                                                        |         |
|------------------------------|--------------------------------------------------------------------------------------------------------|---------|
| BEALE.....                   | "How to Work with the Microscope," 4th Edit. ....                                                      | \$10.00 |
| CARPENTER.....               | "The Microscope and its Revelations," 4th Edit. ....                                                   | 6.25    |
| CLARKE.....                  | "Objects for the Microscope," .....                                                                    | 1.75    |
| COOKE.....                   | "One Thousand Objects for the Microscope," .....                                                       | .50     |
| DONKIN.....                  | "Nat'l History of British Diatomaceæ," in parts, each .....                                            | 1.50    |
| DAVIES.....                  | On "Preparing and Mounting Objects," .....                                                             | 1.50    |
| GRIFFITH & HENFREY.....      | "The Micrographic Dictionary," in parts, .....                                                         | 1.25    |
| PRITCHARD'S.....             | "Infusoria," Colored Plates, New Edition preparing .....                                               | 25.00   |
| QUEKETT.....                 | "Treatise on the Microscope," .....                                                                    | 11.00   |
| QUEKETT.....                 | "Lectures on Histology," 2 vols. in one.....                                                           | 5.00    |
| LANKESTER.....               | "Half-hours with the Microscope," .....                                                                | 2.00    |
| MARTIN.....                  | "Manual of Microscopic Mounting," .....                                                                | 3.50    |
| HOGG.....                    | On "the Microscope," 6th Edition.....                                                                  | 3.50    |
| SMITH'S.....                 | "Synopsis of British Diatomaceæ," vol. 1.....                                                          | 10.50   |
| SMITH'S.....                 | "Synopsis of British Diatomaceæ," vol. 2.....                                                          | 15.00   |
| SUFFOLK.....                 | On "Microscopical Manipulation," .....                                                                 | 2.50    |
| WOOD, Rev.....               | "Common Objects for the Microscope," .....                                                             | .50     |
| FREY.....                    | On "Microscope and Microscopical Technology,"<br>Translated from the German, by Dr. G. R. Cutter ..... | 6.00    |

- |     |                                                                                                    |        |
|-----|----------------------------------------------------------------------------------------------------|--------|
| 18. | Microscope on Three Legs, all brass, with screw adjustment for focus,                              | \$1.00 |
| 19. | Microscope on Three Legs, hard rubber frame, or brass, each                                        | 1.00   |
| 20. | Linen Provers, or Microscope for counting the threads in linen fabrics,                            | 75     |
| 21. | Watchmaker's Glass, horn frame, 1 double convex lens, $\frac{3}{4}$ in. diameter,                  | 40     |
| 21. | Watchmaker's Glass, horn frame, 2 double convex lens; $\frac{3}{4}$ in. diameter, very high power, | 1.00   |
| 22. | Engraver's Glass, horn frame, 1 double convex lens, 1 inch diameter,                               | 50     |
| 22. | Do. wood frame, 1 do. do. $1\frac{1}{2}$ do.                                                       | 50     |
| 22. | Do. horn frame, 2 plano-convex lenses, $1\frac{1}{2}$ do.                                          | 1.00   |
| 22. | Do. do. do. do. 2 do.                                                                              | 1.50   |
| 22. | Do. do. do. do. do.                                                                                | 1.00   |
| 22. | Microscope, with glass cage for seeds or live bugs, small size,                                    | 1.00   |
| 22. | Do. do. do. do. large size,                                                                        | 1.50   |



23. Coddington Lens, brass frame, three sizes, \$1.50, \$2.00, \$2.50  
 24. Gold mountings, 1, 1/2, 1/4 inch Price, \$15 00  
 24. Silver do. do. " 10 00  
 25. Educational Botany Microscope, " 6 50

### Miller's Achromatic Triplets.

MOUNTED IN GOLD AND SILVER.

24. Gold mountings, 1, 1/2, 1/4 inch Price, \$15 00  
 24. Silver do. do. " 10 00  
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do. 18 do. do.	16 00
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do. 12 do. do.	13 00
do. 14 do. do.	15 00
do. 16 do. do.	18 00
do. 18 do. do.	20 00

### Pure Silver Spectacles.

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do. do. do. do. Heavy	10 00
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Tortoise-Shell Frames, Oval Eyes, Plain Arched Spring,	2 00
do. do. do. Improved Arched Spring,	2 50
do. do. do. Anatomical Pattern,	2 50

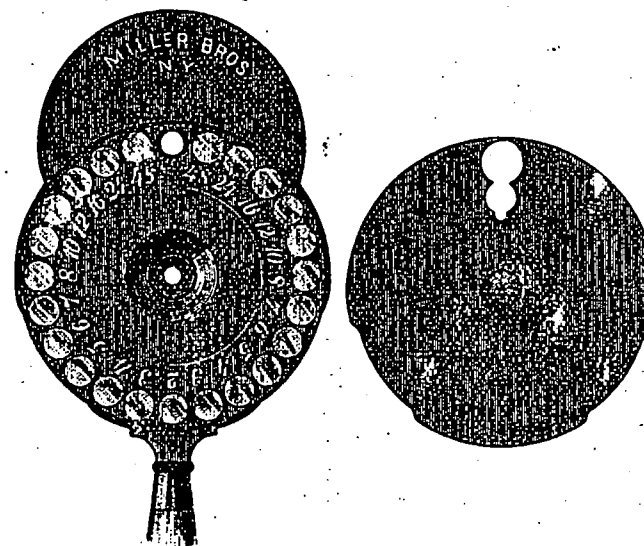
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do. do. Extra Light,	2 50
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The arrangement of the new simplified ophthalmoscope is illustrated by the accompanying figure, which represents the instrument in its natural size. The



disk contains an empty hole and twenty-three lenses, viz., plus 3, 4, 5, 6, 7, 8, 10, 12, 16, 24, 48, and — 2, 3, etc., as the convex lenses. The refractive intervals are as follows: from 2 to 3 = 1-6; 3 to 4 = 1-12, 4 to 5 = 1-20; 5 to 6 = 1-30; 6 to 7 = 1-42; 7 to 8 = 1-56; 8 to 10 = 1-40; 10 to 12 = 1-60; 12 to 16 = 1-48; 16 to 24 = 1-48; 24 to 48 = 1-48.

The disk has a central spiral spring, held down by the cover, which is fastened by a thumb-screw and regulates the rotation of the disk. On the front surface of the disk is a point-like depression under each lens for the reception of the end of a spring, whenever the centre of an auxiliary lens is opposite the centre of the aperture in the mirror. The number of each glass can be read through an aperture in the cover when the glass is moved behind the hole in the mirror. The concave glasses are underlined; the convex glasses have no distinguishing mark. The disk can easily be rotated by the forefinger of the hand which holds the mirror, in such a way that the change of glasses can be effected without losing the ophthalmoscopic image, while the spring secures the accurate apposition of the centre of the lens to the center of the hole in the mirror. The mechanism is simple and durable; the instrument itself is neatly wrought by Miller Bros. The price is \$20.00.

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